

LIMESTONE PV2, NORTHERN CAPE PROVINCE

Environmental Management Programme for a
33kV/132kV onsite substation (IPP Portion)
associated with Limestone PV2

May 2023

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



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 substation infrastructure for the transmission and distribution of electricity, 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 substation infrastructure for the transmission and distribution of electricity. 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 substation infrastructure for the transmission and distribution of electricity requiring EA in terms of NEMA. 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 realization of such infrastructure.

5. Structure of this document

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

| Part | Section | Heading | Content |
|------|---------|---|--|
| A | | Provides general guidance and information and is not legally binding | Definitions, acronyms, roles & responsibilities and documentation and reporting. |
| B | 1 | Pre-approved generic EMPr template | <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 substation infrastructure for the transmission and distribution of electricity, 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 is not required to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA.</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 |

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

| Part | Section | Heading | Content |
|------------|---------|---------|---|
| | | | <p>approved, Part C forms part of the EMPr for the site and is legally binding.</p> <p>This section applies only to additional impact management outcomes and impact management actions that are necessary for the avoidance, management and mitigation of impacts and risks associated with the specific development or expansion and which are not already included in <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 not required 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 property or farm in which the proposed substation infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

Sub-section 2 is to be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: <https://screening.environment.gov.za/screeningtool>. The sensitivity map shall identify the nature of each sensitive feature e.g. threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features and within 50 m from the development footprint.

Sub-section 3 is the declaration that the applicant (s)/proponent (s) 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 impact management 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 as a minimum 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;

“**works**” means the works to be executed in terms of the Contract

2. ACRONYMS and ABBREVIATIONS

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

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

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

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

| Responsible Person(s) | Role and Responsibilities |
|-----------------------------------|---|
| Developer's Project Manager (DPM) | <p><u>Role</u></p> <p>The Project Developer is accountable for ensuring compliance with the EMPr and any conditions of approval from the competent authority (CA). Where required, an environmental control officer (ECO) must be contracted by the Project Developer to objectively monitor the implementation of the EMPr according to relevant environmental legislation, and the conditions of the environmental authorisation (EA). The Project Developer is further responsible for providing and giving mandate to enable the ECO to perform responsibilities, and he must ensure that the ECO is integrated as part of the project team while remaining independent.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Be fully conversant with the conditions of the EA; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s); - Issuing of site instructions to the Contractor for corrective actions required; - Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and - Ensure that periodic environmental performance audits are undertaken on the project implementation. |

| Responsible Person(s) | Role and Responsibilities |
|-------------------------------------|--|
| 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"> - Ensure that all contractors identify a contractor's Environmental Officer (cEO); - Must be fully conversant with the conditions of the EA. Oversees site works, liaison with Contractor, DPM and ECO; - Must ensure that all landowners have the relevant contact details of the site staff, ECO and cEO; - Issuing of site instructions to the Contractor for corrective actions required; - Will issue all non-compliances to contractors; and - Ratify the Monthly Environmental Report. |
| Environmental Control Officer (ECO) | <p><u>Role</u> 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 & Affected Parties' (RI&AP's), as required. Issues of non-compliance raised by the ECO must be taken up by the Project Manager, and resolved with the Contractor as per the conditions of his contract. Decisions regarding environmental procedures, specifications and requirements which have a cost implication (i.e. those that are deemed to be a variation, not allowed for in the</p> |

| Responsible Person(s) | Role and Responsibilities |
|-----------------------|--|
| | <p>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"> - Be aware of the findings and conclusions of all EA related to the development; - Be familiar with the recommendations and mitigation measures of this EMPr; - Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them; - Undertake regular and comprehensive site inspections / audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required; - Educate the construction team about the management measures contained in the EMPr and environmental licenses; - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective; - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements; - In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses; - Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns; - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr; - Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO); - Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc.) as well as corrective and preventive actions taken; - Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken; |

| Responsible Person(s) | Role and Responsibilities |
|--|---|
| | <ul style="list-style-type: none"> - Assisting in the resolution of conflicts; - Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor; - In case of non-compliances, the ECO must first communicate this to the Senior Site Supervisor, who has the power to ensure this matter is addressed. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance; - Maintenance, update and review of the EMPr; - Communication of all modifications to the EMPr to the relevant stakeholders. |
| <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"> - Be fully conversant with the EMPr; - Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s) ; - Confine the development site to the demarcated area; - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO); - Assist the contractors in addressing environmental challenges on site; - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; - Assist the contractor in investigating environmental incidents and compile investigation reports; - Follow-up on pre-warnings, defects, non-conformance reports; |

| Responsible Person(s) | Role and Responsibilities |
|-----------------------|---|
| | <ul style="list-style-type: none"> - Measure and communicate environmental performance to the Contractor; - Conduct environmental awareness training on site together with ECO and cEO; - Ensure that the necessary legal permits and / or licenses are in place and up to date; - Acting as Developer's Environmental Representative on site and work together with the ECO and contractor; |
| Contractor | <p><u>Role</u></p> <p>The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where 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 of substation infrastructure for the transmission and distribution of electricity activities.</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - project delivery and quality control for the development services as per appointment; - employ a suitably qualified person to monitor and report to the Project Developer's appointed person on the daily activities on-site during the construction period; - ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely; - attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones; - ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a contravention of the specifications contained in EMPr, to the satisfaction of the ECO. |

| Responsible Person(s) | Role and Responsibilities |
|--|---|
| contractor Environmental Officer (cEO) | <p><u>Role</u></p> <p>Each Contractor affected by the EMPr should appoint a cEO, who is responsible for the on-site implementation of the EMPr (or relevant sections of the EMPr). The Contractor's representative can be the site agent; site engineer; a dedicated environmental officer; or an independent consultant. The Contractor must ensure that the Contractor's Representative is suitably qualified to perform the necessary tasks and is appointed at a level such that she/he can interact effectively with other site Contractors, labourers, the Environmental Control Officer and the public. As a minimum the cEO shall meet the following criteria:</p> <p><u>Responsibilities</u></p> <ul style="list-style-type: none"> - Be on site throughout the duration of the project and be dedicated to the project; - Ensure all their staff are aware of the environmental requirements, conditions and constraints with respect to all of their activities on site; - Implementing the environmental conditions, guidelines and requirements as stipulated within the EA, EMPr and Method Statements; - Attend the Environmental Site Meeting; - Undertaking corrective actions where non-compliances are registered within the stipulated timeframes; - Report back formally on the completion of corrective actions; - Assist the ECO in maintaining all the site documentation; - Prepare the site inspection reports and corrective action reports for submission to the ECO; - Assist the ECO with the preparing of the monthly report; and - Where more than one Contractor is undertaking work on site, each company appointed as a Contractor will appoint a cEO representing that company. |

4. ENVIRONMENTAL DOCUMENTATION REPORTING AND COMPLIANCE

To ensure accountable and demonstrated implementation of the EMPr, a number of reporting systems, documentation controls and compliance mechanisms must be in place for all substation 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. As a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be filed, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file must remain current and up-to-date. The filing system must be updated and relevant documents added as required. The EMPr file must be made available at all times on request by the CA or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.

4.2 Documentation to be available

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

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

4.3 Weekly Environmental Checklist

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

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

4.4 Environmental site meetings

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

4.5 Required Method Statements

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

The method statement must cover applicable details with regard to:

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

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

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

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

4.6 Environmental Incident Log (Diary)

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

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

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

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

The Environmental Incident Log will be captured in the EAR.

4.7 Non-compliance

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

- Time and date of the non-compliance;
- Name of the contractor responsible;
- Nature and description of the non-compliance;
- Recommended / required corrective action; and
- Date by which the corrective action to be completed.
- The contractors shall act immediately when a notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the development site pertaining to the environment shall be

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

4.8 Corrective action records

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

4.9 Photographic record

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

The Contractor shall:

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

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

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

4.10 Complaints register

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

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

4.11 Claims for damages

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

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

4.12 Interactions with affected parties

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

The ECOs shall:

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

4.13 Environmental audits

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

The ECOs must prepare a monthly EAR. 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 substation infrastructure for the transmission and distribution of electricity. There is a list of aspects identified for the development or expansion of substation infrastructure for the transmission and distribution of electricity, 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 substation infrastructure for the transmission and distribution of electricity.

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

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

5.1 Environmental awareness training

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

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--|--|----------------------------------|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <ul style="list-style-type: none"> - 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"> a) Safety notifications; and b) No littering. | Contractor | Develop and place appropriate posters at key locations | Pre-construction Construction | ECO dEO cEO | Monthly | Photographic record |
| <ul style="list-style-type: none"> - Environmental awareness training must include as a minimum the following: <ul style="list-style-type: none"> a) Description of significant environmental impacts, actual or potential, related to their work activities; b) Mitigation measures to be implemented when carrying out specific activities; c) Emergency preparedness and response procedures; d) Emergency procedures; e) Procedures to be followed when working near or within sensitive areas; f) Wastewater management procedures; g) Water usage and conservation; h) Solid waste management procedures; i) Sanitation procedures; j) Fire prevention; and k) Disease prevention. | cEO / dEO in consultation with the ECO | Develop environmental awareness training material which covers the minimum requirements | Pre-construction Construction | ECO dEO | Prior to the commencement of the environmental awareness training | Environmental awareness training material requirements checklist |
| <ul style="list-style-type: none"> - A record of all environmental awareness training courses undertaken as part of the EMPr must be available; | ECO / cEO / dEO | Filing system including all proof of training (i.e. attendance register and training minutes / | During the construction phase | ECO dEO | Monthly | Completed and up to date filing system with proof of training |

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

5.2 Site Establishment development

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

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|---------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | identified in the BA Report | | | | avoidance of sensitive areas and placement within disturbed areas |
| – The camp must be fenced in accordance with Section 5.5: Fencing and gate installation ; and | DPM | Design and implementation of fencing as per the requirements of Section 5.5 of this EMPr | Pre-construction & Construction | ECO dEO | Once, prior to construction and once during the construction of the fencing | The camp is fenced in accordance with Section 5.5 of this EMPr |
| – The use of existing accommodation for contractor staff, where possible, is encouraged. | Contractor | Obtain sufficient and appropriate accommodation facilities for personnel where relevant | Pre-construction | ECO dEO | Once, prior to construction | Proof of appropriate accommodation |

5.3 Access restricted areas

Impact management outcome: Access to restricted areas prevented.

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|--------------------------|------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | activities has taken place within the access restricted areas |

5.4 Access roads

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------------------------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities; | DPM Contractor | Develop access agreements with the affected landowners. Ensure that agreements are approved and signed | Pre-construction | dEO ECO | Once, prior to construction | Availability of approved and signed negotiations |
| - All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition | Contractor | Undertake maintenance activities on private roads used for construction as | During the construction phase | cEO / ECO | Weekly | Photographic record of the pre-construction condition |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|------------------------------------|---|----------------------------------|--------------------|-----------------------------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | degradation takes place | | | | and degradation of roads, and records of the implementation and effectiveness of maintenance activities |
| - All contractors must be made aware of all these access routes. | dEO / cEO | Develop a map illustrating all access routes associated with the project and present and provide the map to all contractors | Pre-construction Construction | ECO | Once, prior to construction | Access routes map readily available |
| - Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; | Contractor | All access routes developed that are not in-line with the access route agreements must be closed and rehabilitated to the pre-disturbance state | Construction and Rehabilitation | cEO ECO | Bi-weekly (every two weeks) | Photographic record of the closure of access roads and re-vegetation |
| - Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads; | Contractor (and Eskom maintenance) | Existing access routes to be used must be specified | Construction and operation | cEO Operation and | Weekly | Implementation of the |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|------------------------------------|---|-------------------------------|--------------------------------|--|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | staff where relevant to operation) | and the development of new roads must be avoided as far as possible | | maintenance team | | approved layout |
| – In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with section 4.9: photographic record ; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor; | dEO / cEO | Record the conditions of private roads to be used (prior to use) as per the requirements of section 4.9 and agree on the required condition of the roads with the landowner, DPM and contractor | During the construction phase | ECO | Prior to the use of private roads | Photographic record and proof of the road conditions agreed upon with the relevant parties |
| – Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands | DPM and Contractor | Design access roads to follow fence lines and avoid vegetated areas | Pre-construction | ECO | Once during the design and once prior to construction | Implementation of the approved layout |
| – Access roads must only be developed on pre-planned and approved roads. | Contractor | Construction of access roads only on pre-planned and approved access roads | During the construction phase | ECO once during the design dEO | Once during the design and weekly during the constructio | Implementation of the approved layout |

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

5.5 Fencing and Gate installation

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|---------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Use existing gates provided to gain access to all parts of the area authorised for development, where possible; | Contractor | Identify and inform all relevant staff of the existing gates to be used | Pre-construction & Construction | dEO | Monthly | Existing gates are utilised on a frequent basis and only limited new access gates are developed |
| - Existing and new gates to be recorded and documented in accordance with section 4.9: photographic record ; | ECO | Existing and new gates will be recorded and documented as per the requirements of section 4.9 | During the construction phase | ECO | Once, when the construction of all new gates have been completed | Photographic record of the existing and new gates as per the requirements of section 4.9 |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|-------------------------------|---|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; | Contractor | Ensure all relevant gates are fitted with locks and are always locked | Construction and Operation | ECO monthly, Operation and maintenance team and cEO | Bi-weekly (every second week) | All gates are locked and no complaints from landowners are received in this regard |
| – At points where the line crosses 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; | dEO | Install new gates where required with the approval of the affected landowner | During the construction phase | ECO | Once, prior to construction and during the construction phase, as and when required | New gates are installed where the power line crosses fences |
| – Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground; | Contractor | Install gates in a manner so that there is a gap of no more than 100mm between the bottom of the gate and the ground | During the construction phase | cEO | Once, during the erection of the gates during the construction phase | New gates installed as per the requirement |
| – Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate; | Contractor | Implement a reinforced concrete sill beneath gates installed for jackal proofing | During the construction phase | cEO | Once, during the erection of the gates during the construction phase | New gates installed as per the requirement |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---------------------|---|-------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Original tension must be maintained in the fence wires; | Contractor | Maintain original tension of fences through required activities | During the construction phase | ECO | Monthly | No tension reduction on fence wires |
| - All gates installed in electrified fencing must be re-electrified; | Contractor | Electrify gates installed in electrified fencing | During the construction phase | ECO | Once, during the erection of the gates during the construction phase | Gates installed in electrified fencing is electrified |
| - All demarcation fencing and barriers must be maintained in good working order for the duration of the development activities; | Contractor | Undertake maintenance activities on fences and barriers | During the construction phase | ECO | Monthly | Photographic record of maintained fences and barriers |
| - Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where applicable; | Contractor | Fence construction camps, batching plants, hazardous storage areas and access restricted areas. Avoid sensitive flora | During the construction phase | ECO | Once during the erection of fencing | Photographic record of fences erected |
| - Any temporary fencing to restrict the movement of livestock must only be erected with the permission of the land owner. | dEO/ cEO Contractor | Obtain written approval from the relevant landowner where temporary fencing is required to | During the construction phase | ECO | To be monitored as temporary fencing is required | Written approval to be provided by the dEO |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|--------------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | restrict livestock movement | | | | |
| - All fencing must be developed of high quality material bearing the SABS mark; | Contractor | Make use of high quality materials approved by SABS | During the construction phase | cEO | To be monitored as fencing is erected during the construction phase | Use of high quality materials for fencing approved by SABS |
| - The use of razor wire as fencing must be avoided; | Contractor | Razor wire must not be sourced or used for the erection of fencing | During the construction phase | ECO | To be monitored as fencing is erected during the construction phase | Fences erected do not make use of razor wire |
| - Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. Site security will be required at all times; | DSS and Contractor | Ensure fenced areas are locked as required through the implementation of a formalised process. Appoint a security company | During the construction phase | cEO | Weekly and as and when required | Fences are locked and no complaints from landowners are received. A security company is appointed |
| - On completion of the development phase all temporary fences are to be removed; | Contractor | Removal of all temporary fences | At the end of the Construction Phase | ECO dEO | Once, following the completion | No temporary fences associated |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|--------------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | of the construction phase | with the project is present following the completion of the construction phase |
| <ul style="list-style-type: none"> - The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely. | Contractor | Appropriate removal of all fence uprights | At the end of the Construction Phase | ECO dEO | Once, following the completion of the construction phase | No fence uprights associated with the project is present following the completion of the construction phase |

5.6 Water Supply Management

Impact management outcome: Undertake responsible water usage.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--|--|------------------------------|--------------------|---|----------------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <ul style="list-style-type: none"> - All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; | DPM and Contractor | Obtaining relevant registrations from DWS and installation of water meters | Pre-construction | cEO | To be monitored with the installation of water meters and daily during construction and operation | Use of high quality water meters |
| <ul style="list-style-type: none"> - The Contractor must ensure the following: <ul style="list-style-type: none"> a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river; b. No damage occurs to the river bed or banks and that the abstraction of water does not entail stream diversion activities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. | Not applicable - water will not be abstracted from a river | | | | | |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|--|-------------------------------|--------------------|-----------------------------------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <ul style="list-style-type: none"> - Ensure water conservation is being practiced by: <ul style="list-style-type: none"> a. Minimising water use during cleaning of equipment; b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. d. The use of grey water is encouraged. | Contractor / dEO / cEO in consultation with the ECO | Implement the required water conservation measures throughout on-site construction processes | During the construction phase | ECO | Monthly, and as and when required | Successful implementation of water conservation |

5.7 Storm and waste water management

Impact management outcome: Impacts to the environment caused by storm water and wastewater discharges during construction are avoided.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <ul style="list-style-type: none"> - Runoff from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager; | Contractor | Implement measures for the control and management of runoff | During the construction phase | cEO | Weekly | No mismanagement of runoff or contaminated water due to the temporary concrete batching plant |

| 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"> - All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; | Contractor and CEO | Obtain approved absorbent material and make use of licensed waste disposal facilities for disposal of oil | During the Construction Phase | ECO | Monthly | Availability of approved absorbent material at the construction site and proof of disposal of oil at licensed disposal facilities |
| <ul style="list-style-type: none"> - Natural storm water runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO; | DPM in consultation with the ECO | Consultation between the DPM and the ECO to determine if water can be discharged directly into water bodies (where present). The necessary water quality testing must be undertaken prior to discharge | During the construction phase | ECO | As and when the need arises to discharge natural stormwater runoff and clean water | Proof of consultation between the DPM and ECO and the outcomes thereof to be provided. Proof of water quality testing and the results thereof. |
| <ul style="list-style-type: none"> - 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. | DPM in consultation with the ECO | Consultation between the DPM and the ECO to determine if water can be released following settling. | During the construction phase | ECO | As and when the need arises to discharge settled water | Proof of consultation between the DPM and ECO and the outcomes |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|--------------------------|------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance thereof to be provided. |
| | | | | | | |

5.8 Solid and hazardous waste management

Impact management outcome: Wastes are appropriately stored, handled and safely disposed of at a recognised waste facility.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - All measures regarding waste management must be undertaken using an integrated waste management approach; | Contractor | Develop and implement a waste management plan | During the construction phase | ECO | Monthly | Implementation of the waste management plan and proof of waste management through proof of responsible disposal |

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

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

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

5.9 Protection of watercourses and estuaries

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash | Contractor | Contractor to undertake activities which can cause spills of | During the construction phase | cEO | Weekly | No incidents reported of spillage of pollutants |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|-------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| and contaminated water or organic material resulting from the Contractor's activities; | | pollutants outside of watercourses | | | | into watercourses |
| – In the event of a spill, prompt action must be taken to clear the polluted or affected areas; | Contractor and cEO | Develop a management plan or process for implementation should a spill take place | During the construction phase | cEO | Weekly | Feedback must be provided by the contractor in terms of how the spill was handled and photographic evidence of the feedback must be provided and kept on record |
| – Where possible, no development equipment must traverse any seasonal or permanent wetland | cEO and Contractor | Ensure layout has been informed by the environmental sensitivities as determined by the basic assessment and specialist studies | Construction Phase | ECO | Once off review that the layout used is the approved one | Confirm no development equipment traverses any seasonal or permanent wetland as per the authorised layout by |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---------------------------------------|---|---|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | reviewing the as-built designs (once-off confirmation) |
| - No return flow into the estuaries must be allowed and no disturbance of the Estuarine functional Zone should occur; | Not applicable – no estuaries present | | | | | |
| - Development of permanent watercourse or estuary crossing must only be undertaken where no alternative access to tower position is available; | cEO, Contractor | Ensure that permanent crossings (access roads) are provided for access to the substations if no alternative crossing is available. | During the construction phase | cEO | Weekly | Ensure that permanent crossings are developed if there is no alternative. |
| - There must not be any impact on the long term morphological dynamics of watercourses or estuaries; | DPM, cEO | Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continuous monitoring | During the construction and operation phase | ECO, dEO | For all phases of the project life cycle (i.e. construction, operation, decommissioning) | No incidents reported of spillage of pollutants into watercourses |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|--|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <ul style="list-style-type: none"> - Existing crossing points must be favored over the creation of new crossings (including temporary access) | DPM, cEO | Develop a management plan or process for implementation should a spill take place within a watercourse and ensure continuous monitoring | During the pre-construction and construction phase | ECO, dEO | During the construction phase of the project. | Existing crossing points utilised as opposed to new ones created and no incidents reported of spillage of pollutants into watercourses |
| <ul style="list-style-type: none"> - When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: <ul style="list-style-type: none"> a) Water levels during the period of construction; No altering of the bed, banks, course or characteristics of a watercourse b) During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g. including ensuring that construction equipment is well maintained; c) Where earthwork is being undertaken in close proximity to any watercourse, slopes must be stabilised using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and d) Appropriate rehabilitation and re-vegetation measures for the watercourse banks must be implemented timeously. In this regard, the banks should | Contractor | Activities undertaken near watercourses must be in-line with and consider the specified environmental controls | During the construction phase | ECO | Monthly, and as and when required | No degradation of the watercourses and no incidents of destruction reported |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--------------------------|------------------------------|--------------------|-----------|------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| be appropriately and incrementally stabilised as soon as development allows. | | | | | | |

5.10 Vegetation clearing

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|--|---|----------------------------------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| General: | | | | | | |
| – Indigenous vegetation which does not interfere with the development must be left undisturbed; | CEO and contractor | Demarcate areas of indigenous vegetation to be avoided before clearance is undertaken | Construction and operation (i.e. for maintenance purposes) | ECO monthly, Operation and maintenance team weekly | Weekly, and as and when required | No unnecessary clearance of indigenous vegetation is undertaken |
| – Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; | Contractor | Demarcate areas containing protected or endangered species to be avoided by | During the Construction Phase | ECO monthly and Operation and maintenance team weekly | Weekly, and as and when required | No clearance of protected or endangered species other than those |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---|--------------------|--|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | construction activities | | | | permitted to be removed |
| – Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; | Relevant specialist in consultation with the Contractor | Develop and implement a Plant Search and Rescue Plan | Pre-construction & Construction | cEO | Weekly, and as and when required | Implementation of the Plant Search and Rescue Plan and photographic evidence and notes of the implementation of the plan |
| – Permits for removal must be obtained from the relevant CA prior to the cutting or clearing of the affected species, and they must be filed; | DPM | Undertake the permitting process in order to obtain the relevant permits for the removal of protected species. Permits must be kept on file | Pre-construction | ECO | Once, prior to the commencement of the construction phase and removal of the protected species | CA permits on file |
| – The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals; | ECO | Ensure that the audit report indicates all species rescued and replanted and provides feedback | During the Construction Phase and following the completion of the | ECO | Once off or as and when required | ECO confirmed rescued and replanted programme |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|--|--------------------|--|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | in terms of compliance with the conditions of permits for replanting | Construction Phase | | | implemented correctly. |
| – Trees felled due to construction must be documented and form part of the Environmental Audit Report; | ECO | Ensure that the audit report documents the details of trees felled | During the Construction Phase and following the completion of the Construction Phase | ECO | Once, prior to the commencement of the construction phase and removal of the protected species | CA permits on file |
| – Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; | Contractor | Felled trees, vegetation cuttings and debris must be disposed of at a licensed waste disposal facility | During the Construction Phase | ECO | Monthly | No felled trees, vegetation cuttings and debris are dumped in inappropriate locations and disposal certificates are available as proof of responsible disposal |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--|--|-------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – 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; | DPM and Contractor | A suitably qualified pest control operator must be appointed | Construction and Operation | ECO | As and when the use of herbicides is required | Only registered pest control operators must be appointed and proof of their registration must be provided |
| – A daily register must be kept of all relevant details of herbicide usage; | DPM and Contractor | A suitably qualified pest control operator must be appointed | Construction and Operation | ECO | As and when the use of herbicides is required | Only registered pest control operators must be appointed and proof of their registration must be provided |
| – No herbicides must be used in estuaries | Not Applicable – no estuaries applicable | | | | | |
| – All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance to Section 5.3: Access restricted areas. | Contractor in consultation with the CEO | Spatially demarcate protected species and sensitive vegetation and implement appropriate fencing where | During the construction phase | ECO | Once, during the undertaking of the demarcation of the areas and the erection | Demarcation and fencing is undertaken in-line with the requirements of section 5.3 |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|------------------------------|------------------------------------|-----------------------------------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | required as per section 5.3 | | | of the fencing | |
| - Alien invasive vegetation must be removed and disposed of at a licensed waste management facility. | Contractor | Undertake removal of alien invasive vegetation in accordance with the relevant guideline and ensure the vegetation is disposed of at a licensed waste disposal facility | Construction and Operation | ECO Operation and maintenance team | Monthly, and as and when required | Proof must be provided that alien invasive vegetation has been cleared in accordance to the relevant guideline and that the vegetation was disposed of at a licensed waste disposal facility |

5.11 Protection of fauna

Impact management outcome: Disturbance to fauna is minimised.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|---|--|------------------------------------|--|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; | dEO / cEO Contractor | Develop a procedure for dealing with livestock within the affected properties | Pre-construction and during the construction phase | ECO | Once, prior to the commencement of construction and as and when required during the construction phase | Written consent provided by the landowner and proof of representation of the landowner during interference |
| - The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme; | dEO / cEO in consultation with the Contractor | Ensure that the planning and development programme considers breeding sites for wild bird species | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and as and when required | The planning and development programme includes the consideration of breeding sites for wild bird species |
| - Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present; | dEO / cEO in consultation with the Contractor | Avoid breeding sites and ensure that special care is taken in the presence of | During the Construction Phase and Operation Phase | ECO monthly, cEO and Operation and | Weekly, and as an when required during the construction | Photographic record of intact breeding sites |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|--|---|------------------------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | nestlings and fledglings | | maintenance team weekly | Monthly, and as and when required during operation | |
| - Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; | dEO / cEO in consultation with the Contractor | All mitigation measures recommended by the avifauna specialist must be implemented | During the Construction Phase and Operation Phase | ECO Operation and maintenance team | Monthly during construction and monthly during operation | Photographic record of compliance and successful implementation of the recommended measures |
| - No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas; | dEO / cEO in consultation with the Contractor | All site staff must be informed of this requirement during the Environmental Awareness Training and the consequences of not adhering to the requirement. These areas must be demarcated as Access Restricted Areas | During the Construction Phase | ECO | Monthly, and as and when required | No instances of poaching is reported |

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|--------------------------|------------------------------|--------------------|---------------|------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | when required | readily available |

5.12 Protection of heritage resources

Impact management outcome: Impact to heritage resources is minimised.

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

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

5.13 Safety of the public

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|--|-------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.; | cEO in consultation with the Contractor | Develop an Emergency Preparedness, Response and Fire Management Plan specific to the project | Pre-construction Construction | cEO | Once, prior to the commencement of construction and weekly during the construction phase | Compliance with the Emergency Preparedness, Response and Fire Management Plan |
| – All unattended open excavations must be adequately fenced or demarcated; | Contractor | Ensure that all excavations undertaken is fenced and demarcated within a reasonable timeframe and in instances where excavations will be open for long-periods of time | During the Construction Phase | cEO | Weekly | Excavations are fenced where required and photographic proof can be provided |
| – Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; | Contractor | All staff must be easily identifiable and the climbing | During the construction phase | ECO | Monthly, and as and | No incidents of unauthorised |

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

5.14 Sanitation

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

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------------------------------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| <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 to health standards;</p> | | | | | | |
| <p>– A copy of the waste disposal certificates must be maintained.</p> | Contractor | Certificates obtained from the licensed waste disposal facility with the emptying of the toilets must be kept on file | During the Construction Phase | ECO | Monthly, and as and when required | Certificates for waste disposal from the licensed waste disposal facility available on site |

5.15 Prevention of disease

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

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

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

5.16 Emergency procedures

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

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

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

5.17 Hazardous substances

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

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

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

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

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

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

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

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

5.18 Workshop, equipment maintenance and storage

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

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

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

5.19 Batching plants

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

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

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

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--------------------------|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Temporary fencing must be erected around batching plants in accordance with Section 5.5: Fencing and gate installation. | Contractor | Erect Temporary fencing | During the construction phase | cEO | Weekly | Temporary fencing around batching plants |

5.20 Dust emissions

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|--|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO; | Contractor | Apply appropriate dust suppressant | During the Construction Phase | cEO | Weekly | Contractor to provide proof of use of appropriate dust suppressants |
| – Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re-vegetated or stabilised as soon as is practically possible; | Contractor | Proper planning for vegetation removal must be undertaken as well as for the associated rehabilitation | During the Construction Phase and Rehabilitation | cEO | Weekly | Plan for implementation must be provided by the Contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|-------------------------------|--------------------|--|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present; | Contractor | Ensure that specific limitations are placed on the transport and handling of erodible materials during high wind conditions or when a visible dust plume is present | During the Construction Phase | cEO | Bi-weekly (every second week) | No complaints submitted in this regard |
| – During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level; | ECO | ECO to provide adequate recommendations | During the Construction Phase | Not Applicable | | |
| – Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; | Contractor | Place soil stockpiles in areas less affected by wind | During the Construction Phase | cEO and ECO | Bi-weekly (every second week) Monthly | Soil stockpiles are not exposed to wind and have not been eroded |
| – Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; | Contractor in consultation with the ECO | Contractor to implement erosion control measures as recommended and agreed with the ECO | During the Construction Phase | cEO | Weekly, until erosion is no longer a problem | Recommendations made by the ECO have been implemented by the Contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|------------------------|---|--|---------------------------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; | cEO / dEO / contractor | Inform all drivers of speed limits and place appropriate signage along the relevant roads | During the Construction Phase Operation Phase | ECO Operation and Maintenance team | Monthly | No complaints from community members are submitted |
| - Straw stabilisation must be applied at a rate of one bale/10 m ² and harrowed into the top 100 mm of top material, for all completed earthworks; | Contractor | Ensure that straw stabilisation is undertaken as per the listed requirements | During the Construction Phase | ECO | Monthly | Photographic record of all straw stabilisation undertaken |
| - For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. | Contractor | Appropriate dust suppressant measures are implemented | During the Construction Phase | cEO | Weekly | Photographic record of measures being implemented and the results thereof |

5.21 Blasting

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|------------------------|--|------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Any blasting activity must be conducted by a suitably licensed blasting contractor; and | cEO / dEO / contractor | Ensure the contractor is suitably licensed with all necessary credentials and certifications | Pre-Construction Phase | ECO/EO | Once off, before blasting activities commence . | ECO/EO to check all valid credentials and certifications on hand. |
| - Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site. | cEO / dEO / contractor | Ensure all responsible personnel and landowners have been notified of blasting activities 24 hours in advance and keep records of notifications. | Pre-Construction Phase | ECO/EO | Once off, before blasting activities commence . | ECO/EO to confirm all necessary personnel and landowners have been notified. Notification records to be provided. |

5.22 Noise

Impact Management outcome: Prevent unnecessary noise to the environment by ensuring that noise from development activity is mitigated.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------------------------------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – The Contractor must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only; | Contractor | Ensure that noise limits do not exceed acceptable limits and avoid the use of amplification communication | During the Construction Phase | ECO | Monthly, and as and when required | No complaints registered in this regard. No amplification equipment is used. |
| – All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; | Contractor | Provide and implement silencing technology | During the Construction Phase | ECO | Monthly, and as and when required | No complaints registered in this regard. Silencing technology is utilised. |
| – Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers; | cEO | Update complaints register. Provide daily transport to and from site for employees | During the Construction Phase | ECO | Monthly, and as and when required | Complaints register provided by the cEO and proof of transportation services provided |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|--|-----------------------------------|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management. | cEO and Contractor in consultation with the ECO | Compile a Code of Conduct for staff. Appropriate operating hours must be identified for the project. | Pre-construction and Construction | ECO | Once, prior to the commencement of construction | No complaints registered in this regard. |

5.23 Fire prevention

Impact management outcome: Prevention of uncontrollable fires.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|---|---|---------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Designate smoking areas where the fire hazard could be regarded as insignificant; | cEO / Contractor | Identify and demarcate through signage designated smoking areas | Pre-construction & Construction | ECO | Monthly | Photographic record of designated smoking area |
| – Firefighting equipment must be available on all vehicles located on site; | cEO / dEO in consultation with the Contractor | Provide all vehicles with firefighting equipment | Construction | ECO | Monthly | All vehicles are fitted with firefighting equipment and the details |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|--|---------------------------------|--------------------|--|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | thereof are provided by the cEO |
| - The local Fire Protection Agency (FPA) must be informed of construction activities; | cEO in consultation with the ECO | Undertake formal consultation to inform the local FPA of the associated construction activities | Pre-construction | ECO | Once, during the commencement of the Construction Phase | Proof of consultation with the FPA |
| - Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; | dEO / cEO / Contractor in consultation with the ECO | Develop environmental awareness training material which covers the contact numbers for the FPA and emergency services. Place the contact numbers for the FPA and emergency services at a visible and central location | Pre-construction & Construction | ECO | Prior to the commencement of the environmental awareness training and once during the construction phase | Environmental awareness training material requirements checklist and photographic record of contact numbers on display |
| - Two way swap of contact details between ECO and FPA. | ECO | Consultation between the ECO and FPA in order to | Pre-construction | Not Applicable | | |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|--------------------------|------------------------------|--------------------|-----------|------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | exchange contact details | | | | |

5.24 Stockpiling and stockpile areas

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|---------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, watercourses and water bodies; | Contractor | Identify and demarcate an appropriate location for the storage of excavated materials | Pre-construction & Construction | ECO | Monthly | Excavated material is not stored within sensitive environmental areas |
| – All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; | Contractor | Implement appropriate and sufficient maintenance on stockpiled material regularly | During the Construction Phase | cEO ECO | Bi-weekly (every second month) Monthly | Stockpiled material is maintained sufficiently and is clear of weeds and alien vegetation |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Topsoil stockpiles must not exceed 2 m in height; | Contractor | Enforce limitations for the height of topsoil stockpiles | During the Construction Phase | cEO ECO | Bi-weekly (every second month) Monthly | Topsoil stockpiles do not exceed 2m in height |
| – During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.); | Contractor | Appropriate material must be provided in order to cover stockpiles when required | During the Construction Phase | ECO | Monthly | Contractor to provide proof of availability of appropriate material to cover stockpiles when required |
| – Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material. | Contractor | Sandbags must be provided in order to prevent erosion of stockpiled materials | During the Construction Phase | ECO | Monthly | Contractor to provide proof of availability of sandbags to prevent erosion of stockpiled materials |

5.25 Civil works

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|---|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Where terracing is required, topsoil must be collected and retained for the purpose of re-use later to rehabilitate disturbed areas not covered by yard stone; | Contractor | Collection and safe storage of topsoil for later use in rehabilitation phase | During the Construction Phase | ECO | Monthly | Visual inspection of topsoil stockpiles for later use |
| – Areas to be rehabilitated include terrace embankments and areas outside the high voltage yards; | Contractor | Regard areas that do not house infrastructure as requiring rehabilitation and apply rehabilitation measures to these regions | During the Construction Phase, where the area is no longer going to be utilised | ECO | Monthly | Visual inspection of rehabilitation implementation to ensure these areas are being rehabilitated |
| – Where required, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; | Contractor | If required stabilise soil using recognised methods to ensure proper rehabilitation and erosion control | Duration of the construction phase | ECO | Monthly | Visual inspection of stabilised soil regions and descriptions of staff of stabilisation method used |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|------------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – These areas can be stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; | Contractor | If required stabilise soil using recognised methods to ensure proper rehabilitation and erosion control | Duration of the construction phase | ECO | Monthly | Visual inspection of stabilised soil regions and descriptions of staff of stabilisation method used |
| – Rehabilitation of the disturbed areas must be managed in accordance with Section 5.35: Landscaping and rehabilitation ; | Contractor | Review and ensure that all rehabilitation measures are implemented in accordance with the requirements of Section 5.35 | Duration of the construction phase | ECO | Monthly | Visual inspection of rehabilitation conducted and the degree of conformance with the requirements set out in Section 35.5 of this report |
| – All excess spoil generated during terracing activities must be disposed of in an appropriate manner and at a recognised landfill site; and | Contractor | Dispose of all excess spoil using appropriate means and at recognised landfill sites. Keep written registers of the disposal conducted | Duration of the construction phase | ECO | Monthly | Evidence of disposal slips as applicable kept in the site environmental file |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|------------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes. | Contractor | Where spoil is utilised for landscaping purposes implement a 150mm topsoil layer on top following shaping and compaction to promote rehabilitation | Duration of the construction phase | ECO | Monthly | Spoil material used in landscaping is suitably covered with a later of topsoil at least 150mm deep |

5.26 Excavation of foundation, cable trenching and drainage systems

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a licensed landfill site, if not used for backfilling purposes; | Contractor | Use a licensed waste disposal facility for the disposal of excess spoil | During the Construction Phase | ECO | Monthly | Certificates obtained for the disposal of excess spoil at a licensed waste |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|---------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | disposal facility |
| – Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; | Contractor | Spoil used for landscaping must be applied as per the listed requirements | Construction and Rehabilitation | ECO | Monthly | Photographic record of spoil used for landscaping purposes as well as feedback from the contractor |
| – Management of equipment for excavation purposes must be undertaken in accordance with Section 5.18: Workshop, equipment maintenance and storage ; and | Contractor | Undertake the management of equipment for excavation as per the requirements of section 5.18 | During the Construction Phase | ECO | Monthly | Management of equipment is undertaken in line with the requirements of section 5.18 |
| – Hazardous substances spills from equipment must be managed in accordance with Section 5.17: Hazardous substances . | Contractor | Undertake the management of hazardous substances spills from equipment as per the requirements of section 5.17 | During the Construction Phase | ECO | Monthly | Management of hazardous substances spills from equipment is undertaken in line with the requirements |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|--------------------------|------------------------------|--------------------|-----------|------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | of section 5.17 |

5.27 Installation of foundations, cable trenching and drainage systems

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

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

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

5.28 Installation of equipment (circuit breakers, current Transformers, Isolators, Insulators, surge arresters, voltage transformers, earth switches)

Impact management outcome: No environmental degradation occurs as a result of installation of equipment.

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Management of dust must be conducted in accordance with Section 5. 20: Dust emissions; | Contractor | Review and implement dust management actions in accordance with the requirement of Section 5.20 of this report | During the Construction Phase | ECO | Monthly | Dust management actions observed to be in accordance with the requirement of Section 5.20 of this report |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Management of equipment used for installation must be conducted in accordance with Section 5.18: Workshop, equipment maintenance and storage; | Contractor | Review and implement equipment management actions in accordance with the requirement of Section 5.18 of this report | During the Construction Phase | ECO | Monthly | Equipment management actions observed to be in accordance with the requirement of Section 18 of this report |
| – Management hazardous substances and any associated spills must be conducted in accordance with Section 5.17: Hazardous substances; and | Contractor | Review and implement hazardous substances and any associated spills in accordance with the requirement of Section 5.17 of this report | During the Construction Phase | ECO | Monthly | Hazardous substances and any associated spills management actions observed to be in accordance with the requirement of Section 5.17 of this report |
| – Residual solid waste must be recycled or disposed of in accordance with Section 5.8: Solid waste and hazardous management. | Contractor | Review and dispose/recycle residual solid waste in | During the Construction Phase | ECO | Monthly | Dispose/recycle residual solid waste observed to |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---------------------------|--------------------|---|------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | accordance with the requirement of Section 5.8 of this report | | | | be in accordance with the requirement of Section 5.8 of this report |

5.29 Steelwork Assembly and Erection

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|------------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – During assembly, care must be taken to ensure that no wasted/unused materials are left on site e.g. bolts and nuts | Contractor | Conduct an inspection of the site once assembly is complete to remove all stray bolts or unused materials that may be left on site | Duration of the construction phase | ECO | Monthly | Evidence of leftover waste/unused materials on site following closure of assembly |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|------------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Emergency repairs due to breakages of equipment must be managed in accordance with Section 5.18: Workshop, equipment maintenance and storage and Section 5.16: Emergency procedures. | Contractor | Review and conduct all emergency repairs in accordance with Sections 5.18 and 5.16 of this report | Duration of the construction phase | ECO | Monthly | Evidence of emergency repairs carried out having been conducted in accordance with Sections 5.18 and 5.16 of this report |

5.30 Cabling and Stringing

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Residual solid waste (off cuts etc.) shall be recycled or disposed of in accordance with Section 6.8: Solid waste and hazardous Management; | Contractor | Undertake recycling or disposal of solid waste as per the requirements of section 6.8 | During the Construction Phase | ECO | Monthly | Undertake recycling or disposal of solid waste as per the |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | | | | | requirements of section 6.8 |
| - Management of equipment used for installation shall be conducted in accordance with Section 5.18: Workshop, equipment maintenance and storage; | Contractor | Undertake the management of equipment as per the requirements of section 5.18 | During the Construction Phase | ECO | Monthly | Management of equipment is undertaken in line with the requirements of section 5.18 |
| - Management hazardous substances and any associated spills shall be conducted in accordance with Section 5.17: Hazardous substances. | Contractor | Undertake the management of hazardous substances as per the requirements of section 5.17 | During the Construction Phase | ECO | Monthly | Management of hazardous substances is undertaken in line with the requirements of section 5.17 |

5.31 Testing and Commissioning (all equipment testing, earthing system, system integration)

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Residual solid waste must be recycled or disposed of in accordance with Section 5.8: Solid waste and hazardous management. | Contractor | Undertake recycling or disposal of solid waste as per the requirements of section 5.8 | During the Construction Phase | ECO | Monthly | Undertake recycling or disposal of solid waste as per the requirements of section 5.8 |

5.32 Socio-economic

Impact management outcome: enhanced socio-economic development.

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|--|---------------------------------|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Develop and implement communication strategies to facilitate public participation; | dEO / cEO | Identify and implement appropriate strategies for communication with the | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and | Communication is undertaken as per the identified strategies |

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|---|---------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | landowners and residents | | | | of the Grievance Mechanism. No complaints on communication with neighbouring landowners and residents are submitted |
| - Create work and training opportunities for local stakeholders; and | Contractor | Develop and implement a "locals first" policy for the provision of employment opportunities | Pre-construction & Construction | ECO | Once, prior to the commencement of construction and monthly during the construction phase | The "locals first" policy is considered in terms of the employment and training opportunities |
| - Where feasible, no workers, with the exception of security personnel, must be permitted to stay over-night on the site. This would reduce the risk to local farmers. | Not applicable – all personnel will reside within the relevant and closest town | | | | | |

5.33 Temporary closure of site

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-------------------------------|--------------------|---|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in sections 5.17: Hazardous substances and 5.18: Workshop, equipment maintenance and storage ; | Contractor | Regular emptying of the bunds must be undertaken. This must be undertaken as per the requirements listed in sections 5.17 and 5.18 | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Bunds are emptied as per the requirements listed under sections 5.17 and 5.18 |
| – Hazardous storage areas must be well ventilated; | Contractor | Install appropriate ventilation in all hazardous storage areas | During the construction phase | ECO | Prior to site closure for more than 05 days | Effective ventilation is installed in hazardous storage areas |
| – Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; | Contractor / cEO | Ensure fire extinguishers are serviced, as required and are easily accessible with appropriate signage indicating location. Ensure service records and kept up to date and filed | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Signage placed indicating location of fire extinguishers and service records |

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

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Drip trays must have been emptied and secured. | Contractor | Ensure drip trays are emptied and secured prior to site closure | During the Construction Phase | ECO | Prior to site closure for more than 05 days | Drip trays are emptied and secured prior to site closure |

5.34 Dismantling of old equipment

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment | Contractor | Ensure old equipment is secured and where required, stored in contained areas where no spillage or pollution may result | During the Construction Phase | ECO | Monthly | Drip trays are emptied and secured prior to site closure |
| – Oil containing equipment must be stored to prevent leaking or be stored on drip trays; | Contractor | Ensure old equipment is secured and where required, stored in contained areas | During the Construction Phase | ECO | Monthly | Drip trays are emptied and secured prior to site closure |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|---|-------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | where no spillage or pollution may result | | | | |
| - All scrap steel must be stacked neatly and any disused and broken insulators must be stored in containers; | Contractor | Store defunct insulators in containers and scrap steel in one single place, neatly secured | During the Construction Phase | ECO | Monthly | Where needed, insulators observed to be stored in containers and scrap stored neatly as determined by the ECO |
| - Once material has been scrapped and the contract has been placed for removal, the disposal Contractor must ensure that any equipment containing pollution causing substances is dismantled and transported in such a way as to prevent spillage and pollution of the environment; | Contractor , cEO | Ensure dismantling and packaging of scrapped material is transported in such a way as to prevent spillage and pollution of the environment; | During the Construction Phase | ECO | Monthly | Where needed, insulators observed to be stored in containers and scrap stored neatly as determined by the ECO |
| - The Contractor must also be equipped to contain and clean up any pollution causing spills; and | cEO and Contractor | Provide training on the use of spill kits to the relevant employees | During the Construction Phase | ECO | Monthly | Proof of training to be provided by the contractor |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|-------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - Disposal of unusable material must be at a licensed waste disposal site. | cEO and Contractor | Ensure a registered waste disposal site is utilised and keep disposal slips and record in the site environmental file | During the Construction Phase | ECO | Monthly | Visual inspection of disposal record documentation and registration of the waste disposal site utilised. |

5.35 Landscaping and rehabilitation

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

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--|-----------------------------------|--------------------|-----------|---|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| - All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed of to a registered waste site; | Contractor | Develop and implement a rehabilitation plan for the rehabilitation of all disturbed areas. | Pre-construction & Rehabilitation | cEO | Weekly | Rehabilitation of the disturbed areas is undertaken as per the rehabilitation |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|---|------------------------------|--------------------|-----------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | Dispose of all spoil and waste at a licensed waste disposal facility | | | | plan. All certificates of waste disposal at licensed facilities are available. |
| – All slopes must be assessed for contouring, and to contour only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983 | Contractor in consultation with the ECO | Assess all slopes and determine whether contouring is required | Rehabilitation | cEO | Weekly | All slopes are assessed and contoured as required |
| – All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; | Contractor in consultation with the ECO | Assess all slopes and determine whether terracing is required | Rehabilitation | cEO | Weekly | All slopes are assessed and terraced as required |
| – Berms that have been created must have a slope of 1:4 and be replanted with indigenous species and grasses that approximates the original condition; | Contractor | Ensure all berms have a slope of 1:4 and is replanted with indigenous species and grasses | Rehabilitation | cEO | Weekly | All berms have a slope of 1:4 and is replanted with indigenous species and grasses |
| – Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners; | Not applicable | | | | | |
| – Rehabilitation of access roads outside of farmland; | Not applicable | | | | | |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|--------------------|---|------------------------------|--------------------|---|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| – Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition; | Contractor | Make use of indigenous species for rehabilitation | Rehabilitation | cEO | Weekly | Indigenous species are used for rehabilitation |
| – Stockpiled topsoil must be used for rehabilitation (refer to Section 5.24: Stockpiling and stockpiled areas); | Contractor | Ensure stockpiled topsoil is used as per the requirements listed under section 5.24 | Rehabilitation | cEO | Weekly | Stockpiled topsoil is used as per the requirements listed under section 5.24 |
| – Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; | Contractor | Ensure that topsoil is spread evenly | Rehabilitation | cEO | Weekly | Topsoil is spread evenly |
| – Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; | Contractor | Remove all visible weeds from placement area and topsoil before spreading the topsoil | Rehabilitation | cEO | Weekly | No weeds are visible in the placement area or the topsoil |
| – Subsoil must be ripped before topsoil is placed; | Contractor | Undertake the ripping of subsoil prior to the spreading of topsoil | Rehabilitation | cEO | Weekly | Subsoil is ripped before topsoil is placed |
| – The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; | Contractor | Plan the timeframe for rehabilitation in order to undertake vegetation planting during the optimal time for | Rehabilitation | ECO | At the start of rehabilitation to confirm correct timeframe | Rehabilitation is undertaken during the optimal time |

| Impact Management Actions | Implementation | | | Monitoring | | |
|--|---|---|-----------------------------------|--------------------|----------------------|--|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| | | vegetation establishment | | | | |
| – Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; | Contractor | All disturbed slope areas must be stabilised | Rehabilitation | cEO | Weekly | Disturbed slopes are stabilised sufficiently |
| – Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; | Contractor | Stabilise slopes as per the design specifications | Pre-construction & Rehabilitation | cEO | Weekly | Slopes are stabilised as per the design specifications |
| – Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil. | Contractor | Spoil used for landscaping must be applied as per the listed requirements | Rehabilitation | cEO | Weekly | Photographic record of spoil used for landscaping purposes as well as feedback from the contractor |
| – Where required, re-vegetation including hydro-seeding can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following: a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; | Contractor in consultation with a suitably qualified specialist | Make use of a suitable vegetation seed mixture should enhancement be required | Rehabilitation | ECO | As and when required | Use of a suitable vegetation seed mixture if required |

| Impact Management Actions | Implementation | | | Monitoring | | |
|---|--------------------|--------------------------|------------------------------|--------------------|-----------|------------------------|
| | Responsible person | Method of implementation | Timeframe for implementation | Responsible person | Frequency | Evidence of compliance |
| e) The final product must not cause an ecological imbalance in the area | | | | | | |

6 ACCESS TO THE GENERIC EMPr

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

PART B: SECTION 2

7 SITE SPECIFIC INFORMATION AND DECLARATION

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

7.1.1 Details of the applicant:

Name of applicant: AGV Projects (Pty) Ltd

Tel No: Not supplied

Fax No: Not supplied

Postal Address: Not supplied

7.1.2 Details and expertise of the EAP:

Name of EAP: Nkhensani Masondo

Tel No: 011-656-3237

Fax No: 086-684-0547

E-mail address: nkhensani@savannahsa.com

Expertise of the EAP (Curriculum Vitae included): Refer to Appendix 2 of this EMPr for a CV of the EAP

7.1.3 Project name: Onsite (IPP portion) substation associated with the Limestone PV2, Northern Cape Province

7.1.4 Description of the project:

AGV Projects (Pty) Ltd is proposing the development of a commercial Solar Energy Facility and associated infrastructure on a site located ~16km south-east of the town of Danielskuil and 10km east of Lime Acres in the Northern Cape Province. The site is located within the Kgatelopele Local Municipality and the ZF Mgcawu District Municipality. The facility will have a contracted capacity of up to 150MW Maximum Export Capacity and will be known as the Limestone PV2 Solar Energy Facility. The project site comprises of a single property, namely Portion 4 of Farm Engeland 300.

The development area is proposed to accommodate the following infrastructure:

- » PV modules mounted on either a single axis tracking or fixed structure, dependent on optimisation, technology available and cost
- » Inverters and transformers.
- » Low voltage cabling between the PV modules to the inverters.
- » 33kV cabling between the project components and the facility substation.
- » 33/132kV onsite facility substation
- » Battery Energy Storage System (BESS)
- » Site offices and maintenance buildings, including workshop areas for maintenance and storage as well as parking for staff and visitors
- » Access roads
- » Internal distribution roads
- » Stormwater management infrastructure as required.

- » Fence around the project development area with security and access control.
- » Camera surveillance.
- » Internet connection.

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. threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features within 50 m from the development footprint.

The map provided below have been compiled based on verified site sensitivities through specialist studies and relate to the larger solar farm which the substation is associated with. The DFFE screening tool report which includes the site sensitivities derived by the screening tool for the project site is included in Appendix 3 of this EMPr.

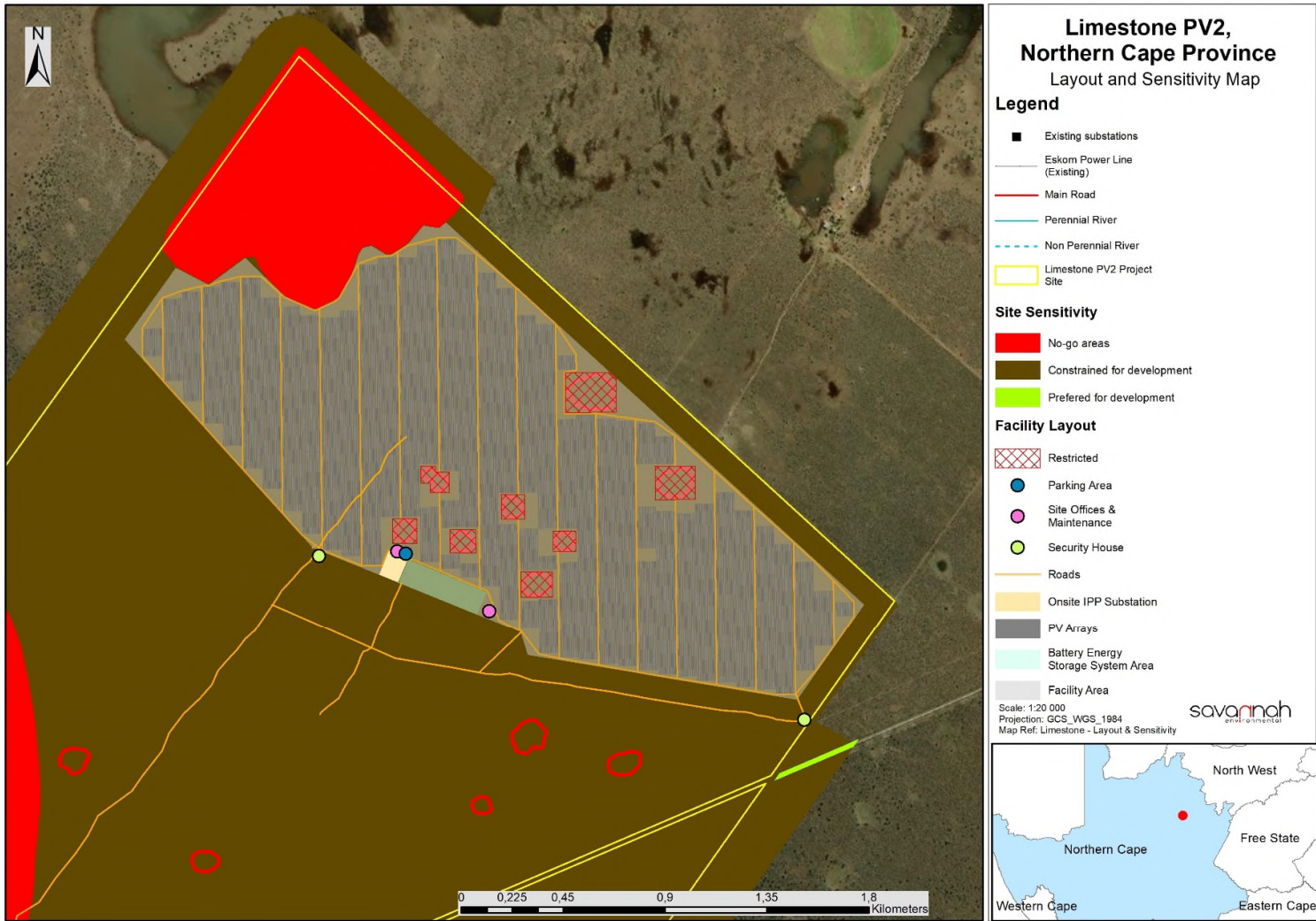


Figure 1: Environmental sensitivity map of Limestone PV2, including all infrastructure

7.3 Sub-section 3: Declaration

The ~~proponent~~^{the applicant}/applicant or holder of the EA affirms that ~~he/she~~^{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~~^{the applicant}/applicant or holder of the EA affirms that ~~he/she~~^{he/she} will provide written notice to the CA 14 day prior to the date on which the activity will commence of commencement of construction to facilitate compliance inspections.

DJ

DJ

Signature Proponent/applicant/ holder of EA

Date:



18 May 2023

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 actions, not included in the pre-approved generic EMPr template, to manage impacts, those impact management outcomes and impact management actions must be included in this section. These specific management controls must be referenced spatially and must include impact management outcomes and impact management actions. The management controls including impact management outcomes and impact management actions must be presented in the format of the pre-approved generic EMPr template. This applies only to additional impact management outcomes and impact management actions that are necessary.

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

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

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

| | |
|-------------------------------------|---|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure. |
| Potential Impact | <ul style="list-style-type: none"> » Design fails to respond optimally to the identified environmental considerations. » Employment creation for the construction, operation and decommissioning activities. » Design fails to respond optimally to the environmental considerations. |
| Activities/risk sources | <ul style="list-style-type: none"> » Positioning of onsite substation. » Positioning of laydown areas. » Pre-construction activities, e.g. geotechnical investigations. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To ensure that the design of the substation responds to the identified environmental constraints and opportunities, including the constraints identified through the EIA process. » To ensure that pre-construction activities are undertaken in an environmentally friendly manner by e.g. avoiding identified sensitive areas and the avoidance / minimisation of the disturbance and degradation of vegetation and ecosystems » Optimal planning of visual infrastructure to minimise visual impact. |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|-------------------------|------------------|
| Consider design level mitigation measures recommended by the specialists, as detailed within the EIA report and relevant appendices. | Developer Contractor | Design phase |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|---|----------------------------------|
| Plan and conduct pre-construction activities in an environmentally responsible manner and in a manner that does not lead to unnecessary impacts and disturbance. | Developer Contractor | Design phase Pre-Construction |
| All 'Very High' sensitivity habitats and associated buffer zones are to be avoided. | Developer Contractor | Design phase Construction |
| Avoid the development of high impact activities within sensitive areas | Developer Contractor | Design phase Construction |
| Compile and implement a rehabilitation plan from the onset of the project; | Developer Contractor | Design phase Construction |
| Plan the placement of laydown areas and temporary construction equipment camps in order to minimise vegetation clearing (i.e. in already disturbed areas) wherever possible. | Developer | Design phase |
| Make use of existing roads wherever possible and plan the layout and construction of roads and infrastructure with due cognisance of the topography to limit cut and fill requirements. | Developer Contractor | Design phase |
| Plan all roads, ancillary buildings and ancillary infrastructure in such a way that clearing of vegetation is minimised. | Developer Contractor | Design phase |
| Consolidate infrastructure and make use of already disturbed sites rather than undisturbed areas. | Developer | Design phase |
| Minimise the development footprint as far as possible. | Developer | Design phase |
| Appropriate design of roads and other infrastructure to minimise faunal impacts and allow fauna to pass over, through or underneath these features as appropriate. | Developer Contractor | Design phase Construction |
| Outside lighting should be designed and limited to minimize impacts on fauna. Lighting fixtures should be fitted with baffles, hoods or louvres and directed downward. Outside lighting should be directed away from highly sensitive areas such as the wetlands. Fluorescent and mercury vapour lighting should be avoided and sodium vapour (yellow) lights should be used wherever possible; | Project manager, Environmental Officer | Design phase Construction |
| All roads and other hardened surfaces should have runoff control features which redirect water flow and dissipate any energy in the water which may pose an erosion risk. | Developer | Design phase Construction |
| No stormwater runoff must be allowed to discharge directly into the watercourses. The runoff should rather be dissipated over a broad area covered by natural vegetation or managed using appropriate channels and swales when located within steep embankments. | Contractor | Design phase Construction |

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| Performance Indicator | <ul style="list-style-type: none"> » Design meets the objectives and does not degrade the environment. » Design and layouts respond to the mitigation measures and recommendations in the EIA report. |
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| Monitoring | <ul style="list-style-type: none"> » Ensure that the design implemented meets the objectives and mitigation measures in the EIA report through review of the facility design by the Project Manager and ECO prior to the commencement of construction. |
|-------------------|---|

OBJECTIVE 2: Securing the site and site establishment

| | |
|-------------------------------------|---|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure. |
| Potential Impact | <ul style="list-style-type: none"> » Hazards to landowners and public. » Security of materials. » Substantially increased damage to natural vegetation. » Potential impact on fauna and avifauna habitat. |
| Activities/risk sources | <ul style="list-style-type: none"> » Open excavations (foundations and cable trenches). » Movement of construction employees, vehicles and plant equipment in the area and on-site. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To secure the site against unauthorised entry. » To protect members of the public/landowners/residents. |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|-------------------------|--|
| Areas should be cleared and disturbed on a needs basis only, as opposed to clearing and disturbing a number of sites simultaneously. | Contractor | Construction |
| Vegetation clearance must be restricted to the authorised footprint, the area to be cleared should be walked on foot by 1-2 individuals to create a disturbance in order for fauna to move off. Sites should be disturbed only prior to the area having to be cleared, not more than 1 day in advance. | Contractor | Construction |
| Demarcate work areas during the construction period to avoid affecting outside areas. Use physical barriers e.g., safety tape, not painted lines, and use signage | Developer Contractor | Design phase Construction |
| Vegetation clearing commences only after the necessary permits have been obtained, if the protected trees cannot be avoided. | Developer Contractor | Construction |
| Supply adequate weather and vermin proof waste collection bins and skips (covered at minimum with secured netting or shade cloth) at sites where construction is being undertaken. Separate bins should be provided for general and hazardous waste. As far as possible, provision should be made for separation of waste for recycling. | Contractor | Site establishment, and duration of construction |
| No unauthorized persons should be allowed onto the site and site access should be strictly controlled | Contractor | Construction |
| Vegetation clearance must be restricted to the authorised footprint. | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|------------------|--|
| Removal of obstacles to allow for access of construction must be kept to only where essential. | Contractor | Construction |
| Land clearance must only be undertaken immediately prior to construction activities and only within the development footprint/servitude | Developer | Construction |
| Secure the site, working areas and excavations in an appropriate manner. Adequate protective measures must be implemented to prevent unauthorised access to the working area and the internal access/haul routes. | Contractor EO | During site establishment Maintenance: for duration of Contract |
| Where necessary to control access, fence and secure the area and implement access control procedures. | Contractor | During site establishment Maintenance: for duration of Contract |
| Establish SABS 089: 1999 Part 1 approved bunded areas for the storage of hazardous materials and hazardous waste. | Contractor | During site establishment and during construction |

OBJECTIVE 3: Conservation of the existing soil resource within the site and in the adjacent areas

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|-------------------------------------|--|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure.. |
| Potential Impact | <ul style="list-style-type: none"> » Erosion and soil loss. » Increased runoff. |
| Activities/risk sources | <ul style="list-style-type: none"> » Rainfall and wind erosion of disturbed areas. » Excavation, stockpiling and compaction of soil. » Concentrated discharge of water from construction activity. » Stormwater run-off from sealed surfaces. » Mobile construction equipment movement on site. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To minimise erosion of soil from site during construction. » To minimise damage to vegetation by erosion or deposition. » To retain all topsoil with a stable soil surface |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|-------------------------|--------------|
| Rehabilitate areas as soon as they are no longer impacted by construction. The rehabilitated areas must be revegetated with indigenous vegetation. | Developer Contractor | Construction |
| Progressive rehabilitation will enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. Surplus rehabilitation material can be applied to other areas in need of stabilisation and vegetation cover. | Developer Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|----------------|--------------|
| Stockpile topsoil for re-use in rehabilitation phase. Maintain stockpile shape and protect from erosion. Wherever excavation is necessary, topsoil should be set aside and replaced to encourage natural regeneration of the local indigenous species. | Contractor | Construction |
| Spill kits to be kept on active parts of the construction site and at site offices. | Contractor | Construction |
| When preparing the hard setting area, cuts should be used for fill with little or no wastages. | Contractor | Construction |
| Control depth of all excavations and stability of cut faces/sidewalls. | Contractor | Construction |
| <p>Reapplying topsoil:</p> <ul style="list-style-type: none"> » Spoil materials and subsoil must be back-filled first, then covered with topsoil. » Immediate replacement of topsoil after the undertaking of construction activities within an area. » Generally, topsoil should be re-applied to a depth slightly greater than the topsoil horizon of a pre-selected undisturbed reference site. » The minimum depth of topsoil needed for re-vegetation to be successful is approximately 20 cm. » If the amount of topsoil available is limited, a strategy must be devised to optimise re-vegetation efforts with the topsoil available. » Reapplied topsoil should be landscaped in a way that creates a variable microtopography of small ridges and valleys that run parallel to existing contours of the landscape. The valleys become catch-basins for seeds and act as run-on zones for rainfall, increasing moisture levels where the seeds are likely to be more concentrated. This greatly improves the success rate of re-vegetation efforts. » To stabilise reapplied topsoil and minimise raindrop impact and erosion: <ul style="list-style-type: none"> * Use organic material from cleared and shredded woody vegetation where possible * Alternatively, suitable geotextiles or organic erosion mats can be used as necessary » Continued monitoring will be necessary to detect any sign of erosion early enough to allow timeous mitigation. | Contractor | Construction |
| <p>Implement general erosion control measures/practises:</p> <ul style="list-style-type: none"> » Runoff control and attenuation can be achieved by using any or a combination of sand bags, logs, silt fences, storm water channels and catch-pits, shade nets, geofabrics, seeding or mulching as | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|----------------|--------------|
| <p>needed on and around cleared and disturbed areas.</p> <ul style="list-style-type: none"> * Ensure that all soil surfaces are protected by vegetation or a covering to avoid the surface being eroded by wind or water. » Ensure that heavy machinery does not compact areas that are not meant to be compacted as this will result in compacted hydrophobic, water repellent soils which increase the erosion potential of the area. » Prevent the concentration or flow of surface water or storm water down cut or fill slopes or along pipeline routes or roads and ensure measures to prevent erosion are in place prior to construction. » Minimise and restrict site clearing to areas required for construction purposes only and restrict disturbance to adjacent undisturbed natural vegetation. » Vegetation clearing should occur in parallel with the construction progress to minimise erosion and/or run-off. Large tracts of bare soil will either cause dust pollution or quickly erode and then result in sedimentation. » When implementing dust control measures, prevent over-wetting, saturation, and run-off that may cause erosion and sedimentation. | | |
| <p>Regular monitoring for erosion during construction to ensure that no erosion problems have developed as result of the disturbance, as per the Erosion Management and Rehabilitation Plans for the project. During the wet season monitoring every 2 months is recommended and every 6 months during the dry season. However, monitoring should also occur after any large rainfall events.</p> | ECO | Construction |
| <p>Level any remaining soil removed from excavation pits that remained on the surface instead of allowing small stockpiles of soil to remain on the surface.</p> | Contractor | Construction |
| <p>Suitable stormwater management systems must be installed along roads and other areas and monitored during the first few months of use. Any erosion / sedimentation must be resolved through whatever additional interventions maybe necessary (i.e., extension, energy dissipaters, spreaders, etc).</p> | Developer | Construction |

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| <p>Performance Indicator</p> | <ul style="list-style-type: none"> » Minimal level of soil erosion around site. » Minimal level of soil degradation. » No activity outside demarcated areas. |
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|---------------------------------|---|
| | <ul style="list-style-type: none"> » Progressive return of disturbed and rehabilitated areas to the desired end state. » No indications of visible topsoil loss. |
| Monitoring and Reporting | <ul style="list-style-type: none"> » Continual inspections of the site by the EO. » Reporting of ineffective sediment control systems and rectification as soon as possible. » If soil loss is suspected, acceleration of soil conservation and rehabilitation measures must be implemented. |

OBJECTIVE 4: Minimise the impacts on and loss of indigenous vegetation, control of alien invasive plants and impact to freshwater resources.

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|-------------------------------------|---|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure. |
| Potential Impact | <ul style="list-style-type: none"> » Loss of plant cover leading to loss of faunal habitat and loss of specimens of protected plants. » Soil erosion. » Indirect impacts on downslope freshwater resource features. » Increased fire hazards. » Increased water use. |
| Activity/risk source | <ul style="list-style-type: none"> » Site preparation and clearing. » Soil disturbance » Introduction of plant propagules with people and vehicles. » Activities outside of designated construction areas. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To limit construction activities to designated areas. » Implement invasive plant clearing prior to construction, but after site demarcation. |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|-----------------------|----------------------------------|
| There should be reduced activity at the site after large rainfall events when the soils are wet. No driving off of hardened roads should occur immediately following large rainfall events until soils have dried out and the risk of bogging down has decreased. | Contractor | Construction |
| Compile and implement an alien vegetation management plan from the onset of construction. The plan must identify areas for action (if any) and prescribe the necessary removal methods and frequencies to be applied. This plan must also prescribe a | Contractor | Pre-construction Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|----------------|---------------------------|
| monitoring plan and be updated as/when new data is collated; | | |
| Where large cut and fill areas are required, these must be stabilised and rehabilitated during the construction process, to minimise erosion and sedimentation. | Contractor | Construction Operation |
| Regular alien clearing should be conducted using the best-practice methods for the species concerned. The use of herbicides should be avoided as far as possible. | Contractor | Construction |
| Vegetation clearing should occur in a phased manner in accordance with the construction programme to minimise erosion and/or run-off. | Contractor | Construction |
| Materials and equipment must only be stored in the pre-determined laydown areas. | Contractor | Construction |
| Unnecessary impacts on surrounding natural vegetation must be avoided, The construction impacts must be contained to the footprint of the solar energy facility. | Contractor | Construction |
| Avoid creating conditions in which alien plants may become established: <ul style="list-style-type: none"> » Keep disturbance of indigenous vegetation to a minimum » Rehabilitate disturbed areas as quickly as possible once construction is complete in an area » Do not import soil from areas with alien plants. | Contractor | Construction |
| Immediately control any alien plants that become established using registered control methods appropriate for the particular species in question. Where necessary, obtain an opinion from a registered Pest Control Officer. | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|----------------|--------------|
| A registered Pest Control Officer must be appointed to implement the invasive alien plants and weeds management plan. The Pest Control Officer must supervise the clearing team to ensure compliance with the invasive alien plants and weeds management plan. | Contractor | Construction |
| Minimise the development footprint as far as possible and rehabilitate disturbed areas that are no longer required by the operational phase of the development. | Contractor | Construction |
| Containment of all contaminated water by means of careful run-off management on site. | Contractor | Construction |

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| Performance Indicator | <ul style="list-style-type: none"> » No disturbance outside of designated work areas. » Limited alien infestation within project control area. » Construction activities restricted to the development footprint. |
| Monitoring and Reporting | <ul style="list-style-type: none"> » Observation of vegetation clearing activities by the EO throughout the Construction. » Monitoring of alien plant establishment within the site on an on-going basis. |

OBJECTIVE 5: Protection of terrestrial fauna

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|-------------------------------------|--|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure. |
| Potential Impact | <ul style="list-style-type: none"> » Vegetation clearance and associated impacts on faunal habitats. » Traffic to and from site. |
| Activity/risk source | <ul style="list-style-type: none"> » Site preparation and earthworks. » Foundations or plant equipment installation. » Mobile construction equipment movement on site. » Access road construction activities. » Substation construction facilities. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To minimise footprints of habitat destruction. » To minimise disturbance to resident and visitor faunal species. |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|-------------------------|---------------------------|
| Minimise disturbance impact by abbreviating construction time | Developer Contractor | Construction Operation |
| Any fauna threatened by the construction activities should be removed safely by an appropriately | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|-------------------------|--------------|
| qualified environmental officer or removal specialist. | | |
| Wildlife-permeable fencing with holes large enough for mongoose and other smaller mammals should be installed, the holes must not be placed in the fence where it is next to a major road as this will increase road killings in the area | Contractor | Construction |
| The timing between clearing of an area and subsequent development must be minimized to avoid fauna from re-entering the site to be disturbed. | Contractor | Construction |
| Any holes/deep excavations must be done in a progressive manner on a needs basis only. No holes/excavations may be left open overnight. In the event holes/excavations are required to remain open overnight, these areas must be covered to prevent fauna falling into these areas and subsequently inspected prior to backfilling | Developer Contractor | Construction |
| Where possible, work should be restricted to one area at a time and be systematic. This is to reduce the number and extent of on-site activities, allowing fauna to move off as the Project progresses. This will give the smaller birds, mammals and reptiles a chance to weather the disturbance in an undisturbed zone close to their natural territories. | Contractor | Construction |
| If the substation is to be fenced, then no electrified strands should be placed within 30cm of the ground as some species such as tortoises are susceptible to electrocution from electric fences as they do not move away when electrocuted but rather adopt defensive behaviour and are killed by repeated shocks. Alternatively, the electrified strands should be placed on the inside of the fence and not the outside or guard wires or mesh can be placed outside of | Contractor | Construction |

| Mitigation: Action/control | Responsibility | Timeframe |
|--|----------------|-----------|
| the fence to prevent tortoises from accessing the electrified fence. | | |

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| Performance Indicator | <ul style="list-style-type: none"> » No disturbance outside of designated work areas. » Minimised clearing of existing/natural vegetation and habitats for fauna. » Limited impacts on faunal species (i.e. noted/recorded fatalities), especially those of conservation concern. |
| Monitoring and Reporting | <ul style="list-style-type: none"> » Observation of vegetation clearing activities by the EO throughout Construction. » Supervision of all clearing and earthworks by the EO. |

OBJECTIVE 6: Securing the site and general maintenance during operation

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|-------------------------------------|--|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure |
| Potential Impact | <ul style="list-style-type: none"> » Hazards to landowners and public. |
| Activities/risk sources | <ul style="list-style-type: none"> » Uncontrolled access to the solar energy facility and associated infrastructure. |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » To secure the site against unauthorised entry. » To protect members of the public/landowners/residents. |

| Mitigation: Action/control | Responsibility | Timeframe |
|---|----------------|-----------|
| Where feasible, motion detection lighting must be used to minimise the unnecessary illumination of areas | O&M Operator | Operation |
| Secure access to the site and entrances. | O&M Operator | Operation |
| Post information boards about public safety hazards and emergency contact information. | O&M Operator | Operation |
| Maintenance must be undertaken regularly on all vehicles and maintenance machinery to prevent hydrocarbon spills. | O&M Operator | Operation |
| No domestic and other waste must be left at the site and must be transported with the maintenance vehicles to an authorised waste dumping area. | O&M Operator | Operation |

| | |
|---------------------------------|--|
| Performance Indicator | <ul style="list-style-type: none"> » Site is secure and there is no unauthorised entry. » No members of the public/ landowners injured. » No complaints from landowners/ public. |
| Monitoring and Reporting | <ul style="list-style-type: none"> » Regular visual inspection of fence for signs of deterioration/forced access. » An incident reporting system must be used to record non-conformances to the EMPr. » A public complaints register must be developed and maintained on site. » Landowners should be consulted regularly. |

OBJECTIVE 7: Protection of indigenous vegetation, fauna and maintenance of rehabilitation

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|-------------------------------------|--|
| Project component/s | <ul style="list-style-type: none"> » Substation; » Associated infrastructure. |
| Potential Impact | <ul style="list-style-type: none"> » Disturbance to or loss of vegetation and/or habitat. » Alien plant invasion. » Environmental integrity of site undermined resulting in reduced visual aesthetics, erosion, compromised land capability and the requirement for on-going management intervention. » Continued fragmentation and degradation of habitats and ecosystems |
| Activity/Risk Source | <ul style="list-style-type: none"> » Movement of employee vehicles within and around site. » Dust, unregulated clearing, IAP plant proliferation and edge effects |
| Mitigation: Target/Objective | <ul style="list-style-type: none"> » Maintain minimised footprints of disturbance of vegetation/ habitats on-site. » Ensure and encourage plant regrowth in non-operational areas of post-construction rehabilitation. » Avoidance / minimisation of the disturbance and degradation of vegetation and ecosystems |

| Mitigation: Action/Control | Responsibility | Timeframe |
|---|---|------------------|
| It should be made an offence for any staff to /take bring any plant species into/out of any portion of the project site. No plant species whether indigenous or exotic should be brought into/taken from the site, to prevent the spread of exotic or invasive species or the illegal collection of plants. | Project manager, Environmental Officer | Operation |
| There should be follow-up rehabilitation and re-vegetation of any remaining denuded areas with local indigenous perennial grass, shrubs and trees. | Project manager, Environmental Officer | Operation |
| Any fauna threatened by the maintenance and operational activities should be removed to a safe location by an appropriate individual. | Project manager, Environmental Officer | Operation |
| All maintenance vehicles should adhere to a low-speed limit (40km/hs) to avoid collisions with susceptible species such as snakes and tortoises and rabbits or hares. Speed limits should apply within the facility as well as on the public gravel access roads to the site. | O&M Operator | Operation |

| Mitigation: Action/Control | Responsibility | Timeframe |
|---|-----------------------|------------------|
| Erosion management at the site should take place according to the Erosion Management Plan and Rehabilitation Plan. This should make provision for annual monitoring and rehabilitation. | O&M Operator | Operation |
| All erosion problems observed should be rectified as soon as possible, using the appropriate erosion control structures and revegetation techniques. | O&M Operator | Operation |
| Prevent birds from nesting in substation infrastructure through exclusion covers or spikes if required (determined on a case-by-case basis). | Developer Specialist | Operation |

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|------------------------------|---|
| Performance Indicator | <ul style="list-style-type: none"> » No further disturbance to vegetation or terrestrial faunal habitats. » No erosion problems resulting from operational activities » Low abundance of alien plants within affected areas. » Maintenance of a ground cover that resist erosion. » Continued improvement of rehabilitation efforts. |
| Monitoring | <ul style="list-style-type: none"> » Observation of vegetation on-site by environmental manager. » Regular inspections to monitor plant regrowth/performance of rehabilitation efforts and weed infestation compared to natural/undisturbed areas. » Annual monitoring with records of alien species presence and clearing actions. » Annual monitoring with records of erosion problems and mitigation actions taken with photographs. |

APPENDIX 1: METHOD STATEMENTS

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

APPENDIX 2: CV OF THE EAP

CURRICULUM VITAE OF NKHENSANI MASONDO

- Profession :** Senior Environmental Consultant
- Specialisation:** Environmental Management, Environmental Impact Assessments, Report Writing, Project Management, Stakeholder Engagement, Environmental Auditing
- Work Experience:** 6 years in the Environmental Management Consulting Field

VOCATIONAL EXPERIENCE

Nkhensani is an EAPASA Registered Environmental Assessment Practitioner with over 6 years of experience in the environmental field. She holds a BSocSci (Hons) in Environmental Management and Analysis and a BA (Own Choice) specialising in Geography and Archaeology, both from the University of Pretoria (UP). She is currently pursuing her MSc in Environmental Management at the University of South Africa (UNISA).

She has been involved in residential, commercial, institutional, industrial, and mixed-use development within South Africa. She has been involved in mine closure strategies and implementation plans on behalf of Mining partners. Her main responsibilities include compilation of environmental reports, stakeholder engagement, and project management.

SKILLS BASE AND CORE COMPETENCIES

- Environmental Planning
- Compilation of Environmental Impact Assessments, Basic Assessments, Water Use Licenses, NEMA Queries, GPEMF Applications, General Authorisations, Schedule 1 and Existing Lawful Use Applications
- Compilation and Implementation of Environmental Programmes
- Undertaking Environmental Audits for residential, commercial, and industrial developments
- Project Management of various projects
- Review of Specialists reports
- Undertaking Stakeholder Engagements for a variety of projects

EDUCATION AND PROFESSIONAL STATUS

Degrees:

- Master of Science in Environmental Management (current), University of South Africa
- BSocSci (Hons) Environmental Analysis and Management (2014), University of Pretoria
- BA (Own Choice) Specialising in Geography and Archaeology (2013), University of Pretoria

Short Courses:

- Geographical Information Systems Training (ESRI) 2016
- ISO 14001: 2004 Lead Environmental Auditor Training: Environmental Management Systems (SGS) 2015

Professional Society Affiliations:

- Environmental Assessment Practitioners Association of South Africa – Environmental Assessment Practitioner

| EMPLOYMENT | | |
|--------------------------|---|--|
| Date | Company | Roles and Responsibilities |
| 01 June 2022 - Current: | Savannah Environmental (Pty) Ltd | <p>Senior Environmental Consultant</p> <p><u>Tasks include:</u></p> <ul style="list-style-type: none"> • Play a lead role in environmental permitting, environmental authorisation applications, and compliance and advice and assurance. • Project management, execute draft, review and/or further develop and manage the delivery of environmental impact assessments (EIA) reports and EMPs in line with the requirements of NEMA and the EIA regulations. • Environmental Permitting (including WULA), environmental authorisation applications and associated stakeholder engagement and public participation. • Manage the delivery of specialist environmental consultants and their reporting, as may be required. Manage any third parties or sub-consultants to which functions have been outsourced. • Project-related GIS mapping. • New business development and the preparation of proposals. |
| August 2017 – May 2022 | LEAP: Landscape Architects and Environmental Planners (Imbrillinx CC) | <p>Environmental Assessment Practitioner</p> <p><u>Task included:</u></p> <ul style="list-style-type: none"> • Compiling Scoping Reports, Integrated Wastewater • Management Plans, Water Use License Applications, General • Authorisations, Schedule 1 Borehole Registrations, Basic • Assessment Reports, Environmental Management Programmes, • Section 24G Applications and Appeals, conducting site inspections. • Compiling Water Quality Monitoring, compiling wetland rehabilitation and management reports. • Stakeholder Engagement. • Project Management • Act as a liaison officer for the company with State Departments. |
| May 2015 – December 2016 | LEAP: Landscape Architects and Environmental Planners (Imbrillinx CC) | <p><i>Environmental Control Officer</i></p> <p><u>Tasks Included</u></p> <ul style="list-style-type: none"> • Formulated and implemented long-range plans for environmental programs. |

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| | | <ul style="list-style-type: none"> Performed inspections, groundwater sampling and soil sampling. Performed environmental site assessments and provided remediation recommendations. Inspected sites to ensure adherence to environmental regulations. Training of contractors of appropriate environmental practices. Attending site meetings with contractors. Liaison with state departments. Act as a public participation assistant as and when required. |
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PROJECT EXPERIENCE

INFRASTRUCTURE DEVELOPMENT PROJECTS (PIPELINES, WATER RESOURCES AND INDUSTRIAL

Basic Assessment and Environmental Programmes

| Project | Client Name | Role |
|--|---|--------------------------------|
| Lombardy East Stream Flow Reduction Activities | Johannesburg Road Agency | Project Manager & EAP |
| The Whisken K54 Road development | Balwin Properties Limited on behalf of Gautrans | Public Participation Assistant |

Part 1 Amendment

| Project | Client Name | Role |
|---------------------|-------------|-----------------------|
| Malibongwe Pipeline | Codevco | Project Manager & EAP |

Water Use License Applications and Environmental Programmes

| Project | Client Name | Role |
|--|---|-----------------------|
| Crowthorne Leogem Sewer Pipeline | Leogem Property Projects (Pty) Ltd on behalf of | Project Manager & EAP |
| Diepsloot Klevebank Sewer pipeline | Eris Property Group (Pty) Limited | Project Manager & EAP |
| Kyalami Heights X4 Sewer Pipeline | Church of Scientology | Project Manager & EAP |
| Lombardy East Stream Flow Reduction Activities | Johannesburg Road Agency | Project Manager & EAP |

General Authorisation

| Project | Client Name | Role |
|--|---|-------------------------|
| Alinta Extension 4 Stormwater Infrastructure | Balwin Properties | Project Manager & EAP |
| Celtisdal Stormwater Infrastructure | Cosmopolitan Projects (Tshwane) Pty Ltd | Project Manager and EAP |
| Erasmus Estate – Road Crossing | Erasmus Estate Trust | EAP |
| Olivedale Retirement Village Stormwater Infrastructure | Olivedale Retirement Village NPO | EAP |
| Gem Valley Mixed Use Development Stormwater Culvert | Central Developments (Pty) Ltd | Project Manager & EAP |

Environmental Compliance

| Project | Client Name | Role |
|---------------------------------|----------------------------------|------|
| Diepsloot Porcupine Park Avenue | Valumax Northern Farms (Pty) Ltd | ECO |

HOUSING AND URBAN PROJECTS

Environmental Impact Assessments and Environmental Management Programmes (EMPr)

| Project | Client Name | Role |
|--|------------------------------|-----------------------|
| Dersley Springs Mixed Used Development | Royal Albatross (Pty) Ltd | EAP |
| Green Valley Residential Development | Balwin Properties Limited | Project Manager & EAP |
| Irene Ridge Mixed Use Development | M&T Developments | EAP |
| Onderstepoort Extension 42 Mixed Use Development | Power Developments (Pty) Ltd | EAP |
| Reigerpark X10 Mixed Use Development | Living Africa (Pty) Ltd | EAP |
| Sammy Marks Mixed Use Development | Abland | EAP |
| Swaziland | | |

Basic Assessments and Environmental Management Programmes

| Project | Client Name | Role |
|--|--|-----------------------|
| Atteridgeville X47 Light Industrial Development | JT Group (Pty) Ltd | Project Manager |
| Erasmus Estate Mixed Use Development | Erasmus Estate Trust | EAP |
| Germiston Cemetery | Living Africa (Pty) Ltd | Project Manager & EAP |
| Homes Haven X24 | Central Developments (Pty) Ltd | EAP |
| Leeuwfontein Shopping Centre | McCormick Property Group | Project Manager & EAP |
| Lewende Woord Bronkhorstspuit Church and Rehabilitation Centre | Lewende Woord Church and Rehabilitation Centre | EAP |
| Spes Magte | South African Special Forces | EAP |
| Waterfall Polofields | Balwin Properties | EAP |
| Willaway Residential Development | 3V Projects | EAP |
| Waterkloof Marina Retirement Village | Central Development Projects | EAP |

Part 2 Amendments

| | | |
|--------------------------------------|-----------------------------------|-----------------------|
| Gem Valley Hauptfleisch | Gem Valley Hauptfleisch (Pty) Ltd | Project Manager & EAP |
| Greenlee Residential Develop | Balwin Properties Limited | EAP |
| Heidelberg X25 Mixed Use Development | Mantracare (Pty) Ltd | Project Manager & EAP |
| The Reid Montessorri School | Balwin Properties | EAP |

Part 1 Amendments

| | | |
|---|----------------------------------|-----------------------|
| Apex X10 Industrial Development | Moolman Group | EAP |
| Amberfield X47 | Central Developments (Pty) Ltd | Project Manager |
| Clayville X50 and X71 Mixed Use Development | Valumax Midrand (Pty) Ltd | Project Manager & EAP |
| Klerksoord Mixed Use Development | SafDev (Pty) Ltd | Project Manager & EAP |
| Mooikloof Mega City | Balwin Properties Limited | EAP |
| Riverside View X30 – X35 | Valumax Northern Farms (Pty) Ltd | Project Manager & EAP |

GPEMF

| Project | Client Name | Role |
|--|-------------------------------------|-----------------------|
| Krugerus X9 Residential Development | Moolman Group | Project Manager & EAP |
| Linbro Park Klulee Residential Development | Balwin Properties Limited | Project Manager & EAP |
| Theresa Park X66 & X67 | Social Housing Regulatory Authority | Project Manager & EAP |

NEMA Query

| Project | Client Name | Role |
|---------------------------------|---------------------------|-----------------------|
| Kwa-Mhlanga Crossing | Top Spot (Pty) Ltd | Project Manager & EAP |
| Waterfall Polofields Show block | Balwin Properties Limited | EAP |

24G Rectification Application

| Project | Client Name | Role |
|------------------|-------------|-----------------|
| Dekenah Street | Alrode CC | EAP |
| Mopane Grootvlei | RuaCon | Project Manager |

Water Use License Applications

| Project Name | Client Name | Role |
|---|-----------------------------------|-----------------------|
| Botesdal X15 Light Industrial Development | Open Energy (Pty) Ltd | Project Manager & EAP |
| Clayville X45 Mixed Use Development | Valumax Midrand (Pty) Ltd | Project Manager & EAP |
| Ermelo Shopping Centre | Moolman Group | Project Manager & EAP |
| Gem Valley Hauptfleisch Mixed Use Development | Gem Valley Hauptfließch (Pty) Ltd | Project Manager & EAP |
| Lewende Woord Bronkhorstspuit Church and Rehabilitation | Lewende Woord Bronkhorstspuit | Project Manager & EAP |
| Matsamo Mall Shopping Centre | Moolman Group | Project Manager & EAP |
| Miracle Meadow Water Bottling Facility | Mr Pieter du Randt Pretorius | Project Manager & EAP |
| Reigerpark Extension 10 and Comet X18 Mixed Use Development | Living Africa 2 (Pty) Ltd | Project Manager & EAP |
| Norton Park X8 Residential Development | SSI Group | Project Manager & EAP |
| Onderstepoort X42 Mixed Use Development | Power Developments (Pty) Ltd | Project Manager & EAP |
| The Whisken | Balwin Properties Limited | Project Manager & EAP |
| Zwartkop 187 Mixed Use Development | Moolman Group | Project Manager & EAP |
| Zuurfontein Ptn 221 Residential Development | M&T Developments | Project Manager & EAP |

General Authorisations

| Project | Client Name | Role |
|--------------------------------|--------------------|-----------------------|
| Thokoza Park Recreational Park | City of Ekurhuleni | Project Manager & EAP |

Schedule 1 Authorisations

| Project | Client Name | Role |
|---------------------------------|---------------------------|-----------------------|
| Builders Warehouse Midrand | Massmart (Pty) Ltd | Project Manager |
| Greenlee Borehole Registration | Balwin Properties Limited | Project Manager & EAP |
| Willway Residential Development | 3V projects (Pty) Ltd | Project Manager & EAP |

Environmental Auditing

| Project | Client Name | Role |
|---------------------------------------|----------------------------------|-------------------------------|
| Amberfield Estate | Central Developments (Pty) Ltd | Environmental Control Officer |
| Blue Hills Equestrian Estate | Century Property Development | Environmental Control Officer |
| Chuma Mall | Eris Property Group | Environmental Control Officer |
| Diepsloot Ptn 1 Mixed Use Development | Valumax Northern Farms (Pty) Ltd | Environmental Control Officer |
| Kyalami Hills | Balwin Properties Limited | Environmental Control Officer |
| Kyalami Ridge Mall | Kyalami Retail Africa | Environmental Control Officer |
| South Hills Mixed Use Estate | Calgro M3 | Environmental Control Officer |
| Waterfall Estate | Century Property Developments | Environmental Control Officer |

APPENDIX 3: DFFE SCREENING TOOL REPORT

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

EIA Reference number: TBD

Project name: Limestone PV 1 and 2

Project title: Limestone PV 1 and 2

Date screening report generated: 07/10/2022 08:26:07

Applicant: AGV Projects (Pty) Ltd

Compiler: Matthew Ellero

Compiler signature:
.....

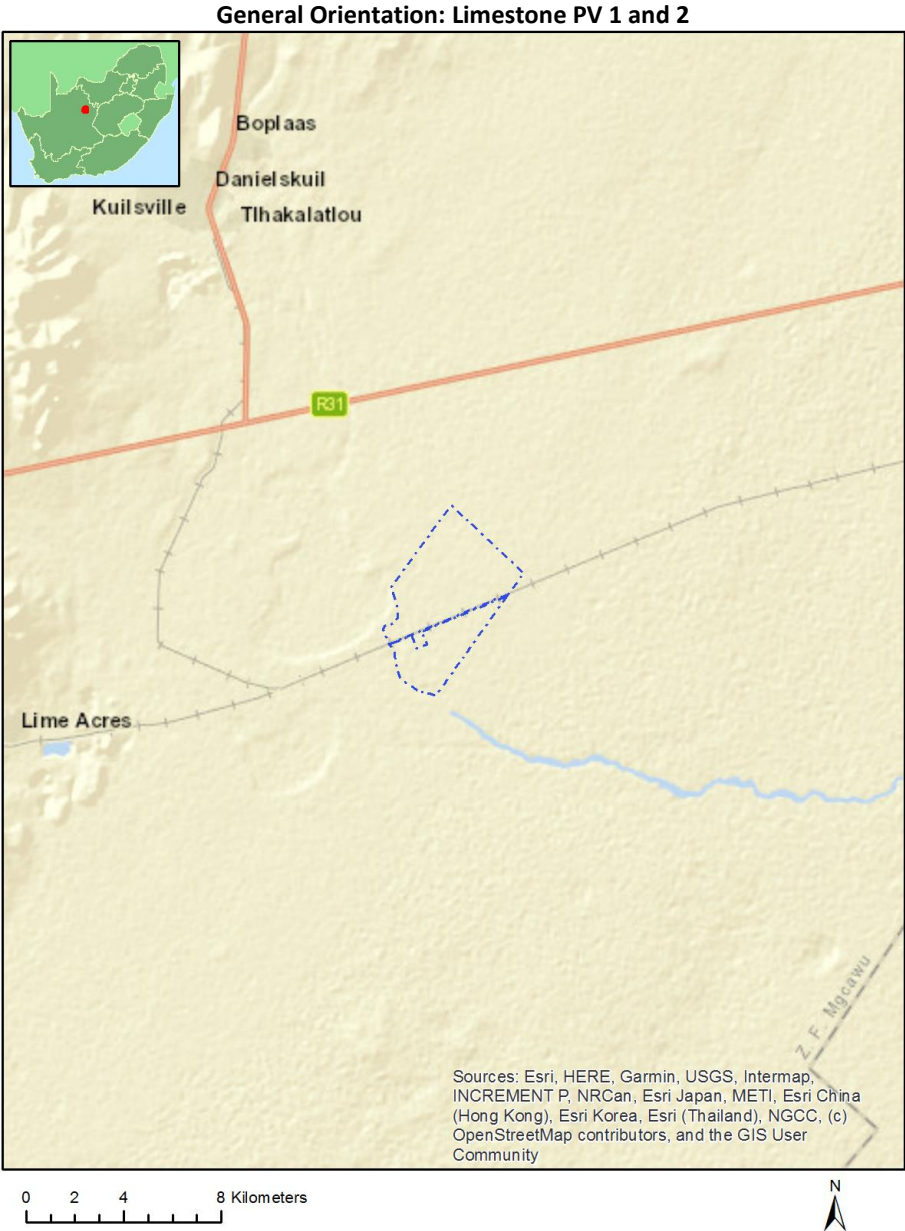
Application Category: Utilities Infrastructure|Electricity|Generation|Renewable|Solar|PV

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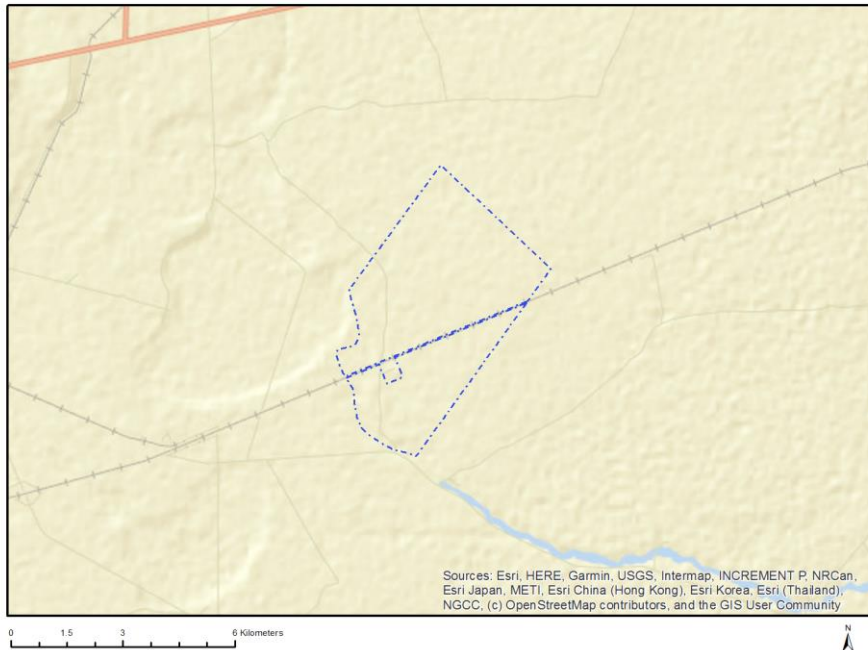
- Proposed Project Location 3
 - Orientation map 1: General location 3
- Map of proposed site and relevant area(s) 4
 - Cadastral details of the proposed site 4
 - Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area 4
 - Environmental Management Frameworks relevant to the application 5
- Environmental screening results and assessment outcomes 6
 - Relevant development incentives, restrictions, exclusions or prohibitions 6
- Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones 7
 - Proposed Development Area Environmental Sensitivity 7
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- Results of the environmental sensitivity of the proposed area 10
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 - MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY 19
 - MAP OF RELATIVE RFI THEME SENSITIVITY 20
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Proposed Project Location

Orientation map 1: General location



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

| No | Farm Name | Farm/ Erf No | Portion | Latitude | Longitude | Property Type |
|----|-----------|--------------|---------|--------------|--------------|---------------|
| 1 | | 300 | 0 | 28°18'2.59S | 23°38'54.57E | Farm |
| 2 | RUNNIMEDE | 300 | 4 | 28°18'47.22S | 23°38'3.27E | Farm Portion |
| 3 | | 300 | 4 | 28°20'7.82S | 23°37'53.6E | Farm Portion |

Development footprint¹ vertices:

No development footprint(s) specified.

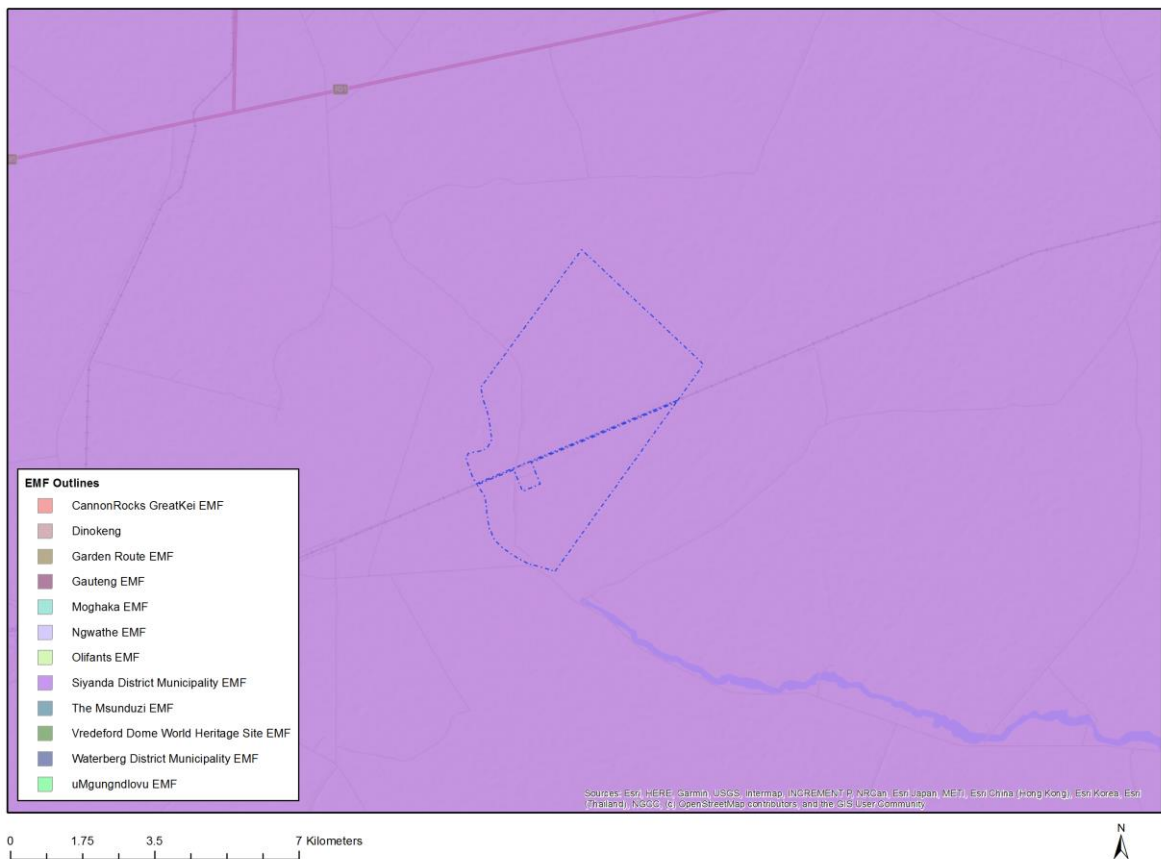
Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

| No | EIA Reference No | Classification | Status of application | Distance from proposed area (km) |
|----|--------------------|----------------|-----------------------|----------------------------------|
| 1 | 12/12/20/2647/49 | Solar PV | Approved | 10.4 |
| 2 | 12/12/20/1944 | Solar PV | Approved | 19 |
| 3 | 14/12/16/3/3/2/929 | Solar PV | Approved | 10.9 |
| 4 | 14/12/16/3/3/2/453 | Solar PV | Approved | 10.9 |
| 5 | 12/12/20/2252/1 | Solar CSP | Approved | 28.2 |

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

| | | | | |
|----|------------------------|-----------|----------|------|
| 6 | 14/12/16/3/3/2/923 | Solar CSP | Approved | 28.2 |
| 7 | 14/12/16/3/3/2/930 | Solar PV | Approved | 10.9 |
| 8 | 14/12/16/3/3/2/371/AM1 | Solar PV | Approved | 0 |
| 9 | 12/12/20/2613 | Solar PV | Approved | 19 |
| 10 | 12/12/20/2316 | Solar CSP | Approved | 24.3 |
| 11 | 14/12/16/3/3/1/1916 | Solar PV | Approved | 24.3 |
| 12 | 12/12/20/1903/1 | Solar PV | Approved | 24.3 |
| 13 | 12/12/20/2646 | Solar CSP | Approved | 10.4 |
| 14 | 12/12/20/2252/2 | Solar CSP | Approved | 28.2 |
| 15 | 14/12/16/3/3/1/1751 | Solar PV | Approved | 12.6 |
| 16 | 12/12/20/2647/4 | Solar PV | Approved | 10.4 |
| 17 | 14/12/16/3/3/2/371 | Solar PV | Approved | 0 |
| 18 | 12/12/20/1903/2 | Solar PV | Approved | 25.8 |
| 19 | 12/12/20/2648 | Solar PV | Approved | 10.4 |
| 20 | 12/12/20/1903 | Solar PV | Approved | 24.3 |
| 21 | 12/12/20/2675 | Solar PV | Approved | 17.7 |
| 22 | 12/12/20/2647 | Solar PV | Approved | 10.4 |

Environmental Management Frameworks relevant to the application



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

Environmental screening results and assessment outcomes

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

Relevant development incentives, restrictions, exclusions or prohibitions

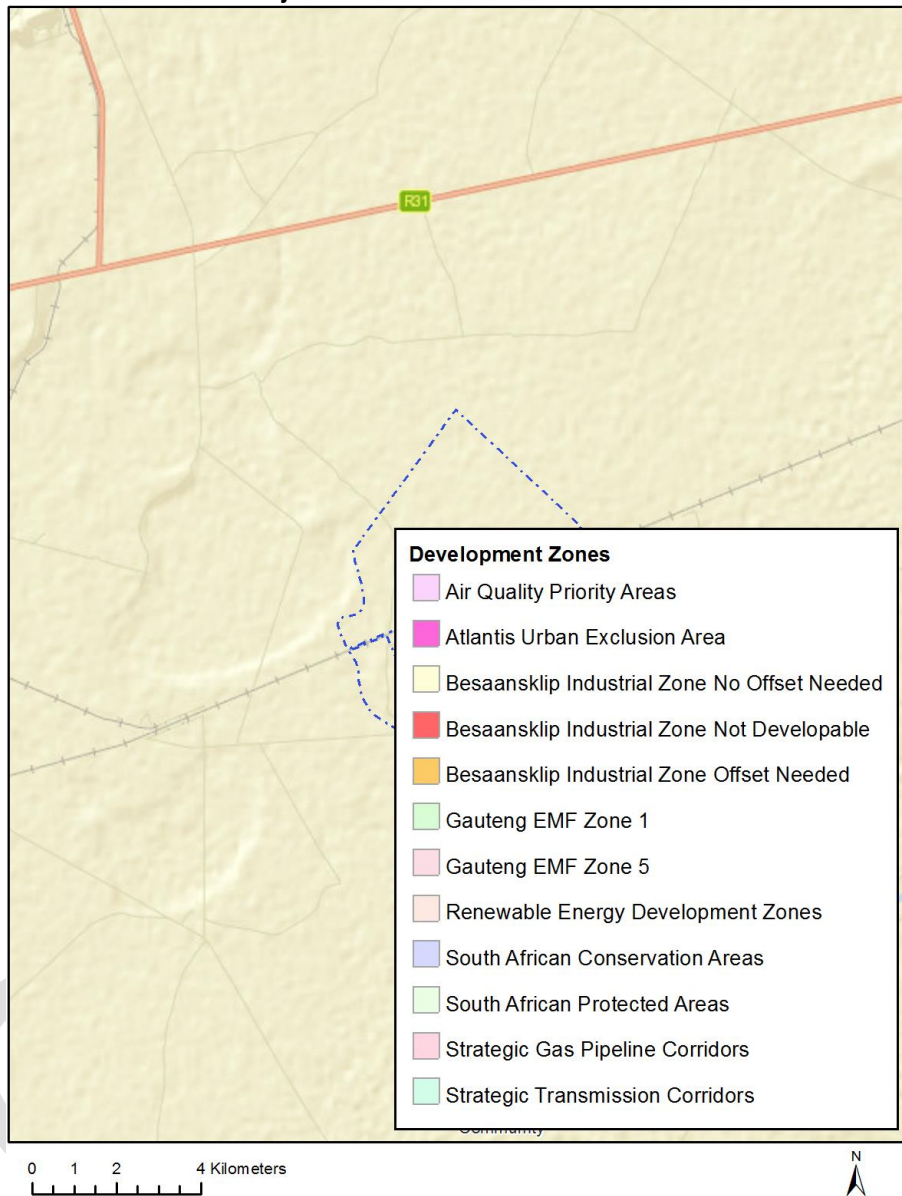
The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

No intersection with any development zones found.

OFFICIAL

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

Project Location: Limestone PV 1 and 2



Proposed Development Area Environmental Sensitivity

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

| Theme | Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|----------------------|-----------------------|------------------|--------------------|-----------------|
| Agriculture Theme | | | X | |
| Animal Species Theme | | X | | |

| | | | | |
|--|---|---|---|---|
| Aquatic Biodiversity Theme | X | | | |
| Archaeological and Cultural Heritage Theme | | X | | |
| Avian Theme | | | | X |
| Civil Aviation (Solar PV) Theme | | | | X |
| Defence Theme | | | | X |
| Landscape (Solar) Theme | X | | | |
| Paleontology Theme | X | | | |
| Plant Species Theme | | | X | |
| RFI Theme | | | | X |
| Terrestrial Biodiversity Theme | X | | | |

Specialist assessments identified

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

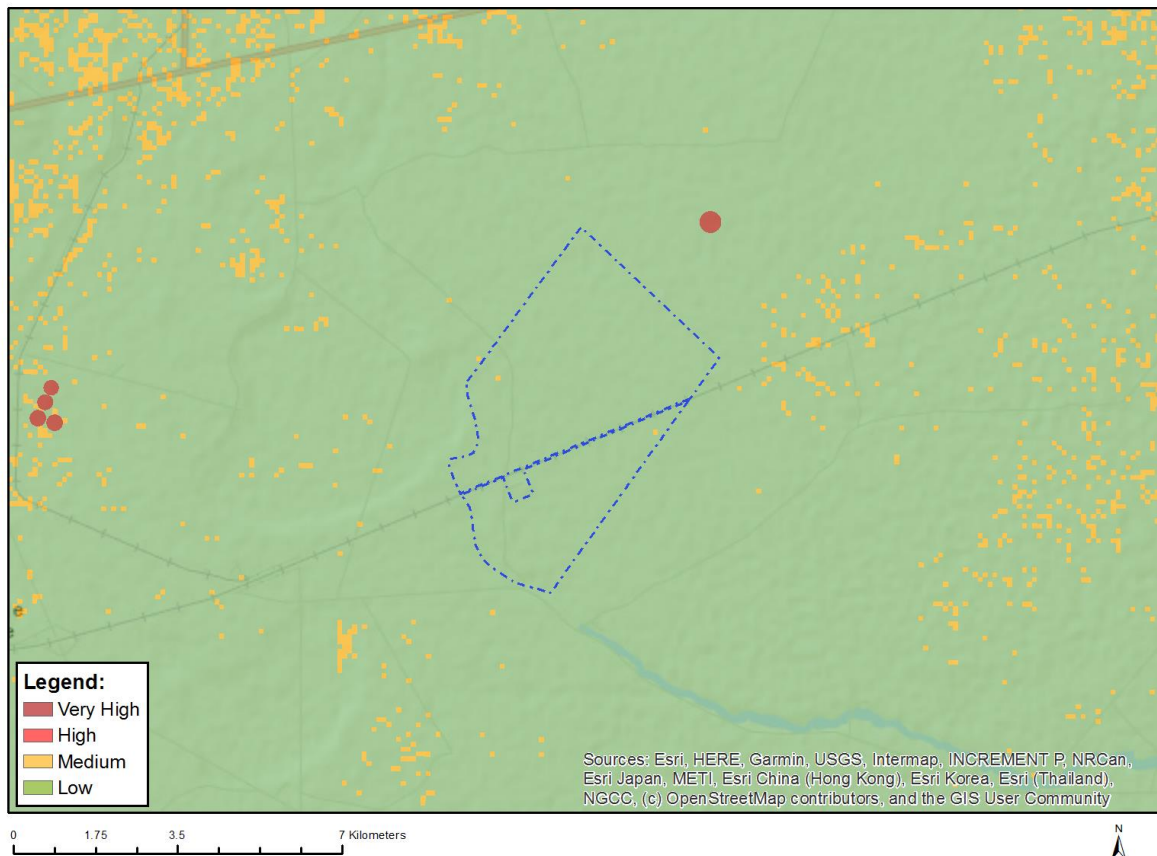
| N o | Specialist assessment | Assessment Protocol |
|------------|--|---|
| 1 | Agricultural Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_WindAndSolar_Agriculture_Assessment_Protocols.pdf |
| 2 | Landscape/Visual Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 3 | Archaeological and Cultural Heritage Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 4 | Palaeontology Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf |
| 5 | Terrestrial Biodiversity Impact Assessment | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf |
| 6 | Aquatic Biodiversity | https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf |

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

Results of the environmental sensitivity of the proposed area.

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

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY

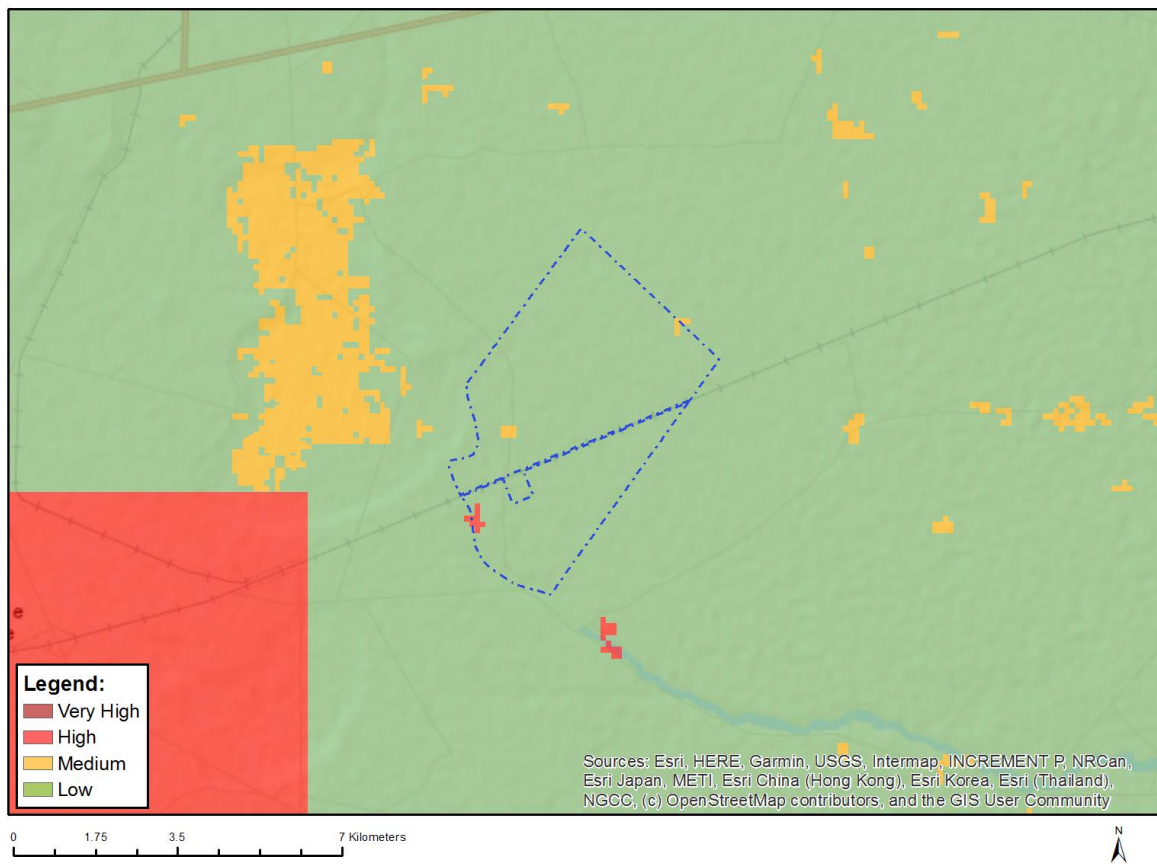


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | | X | |

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|---|
| Low | Land capability;01. Very low/02. Very low/03. Low-Very low/04. Low-Very low/05. Low |
| Medium | Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate |

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



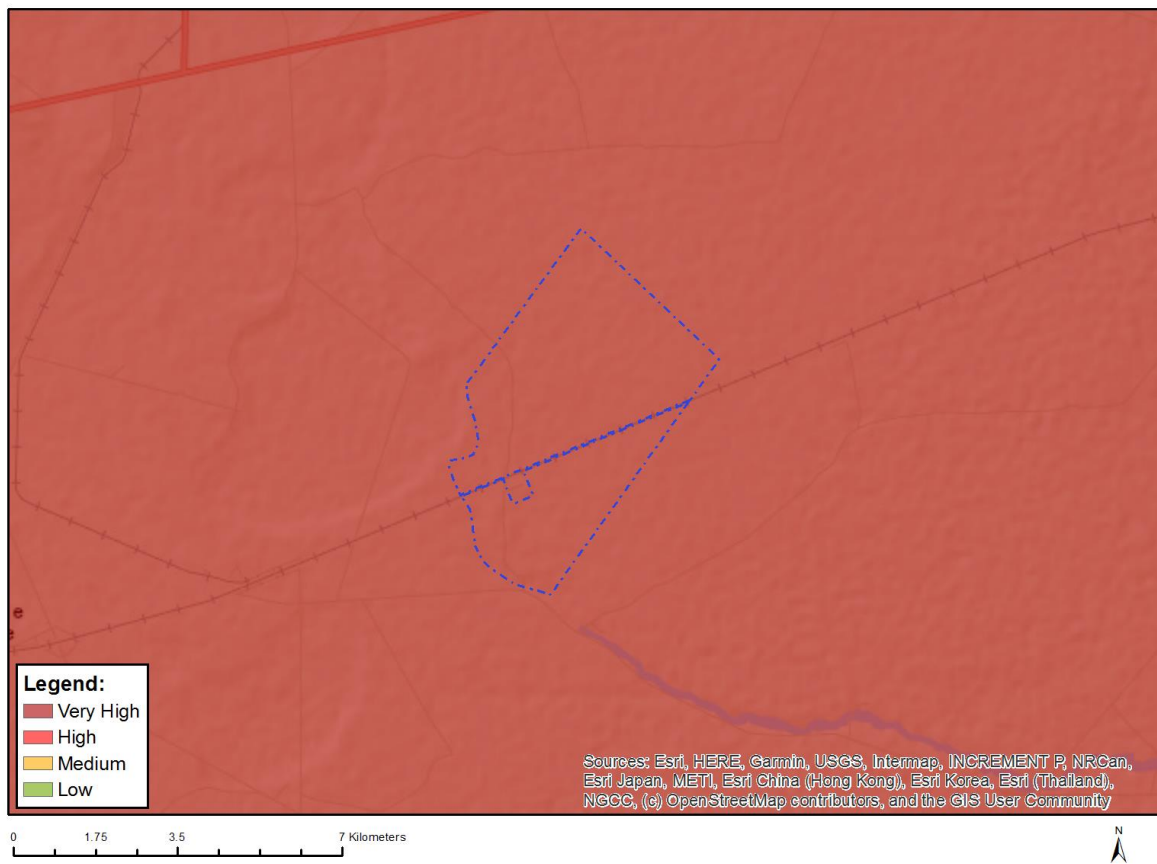
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their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

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

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|-------------------------------|
| High | Aves-Sagittarius serpentarius |
| Low | Subject to confirmation |
| Medium | Aves-Sagittarius serpentarius |

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

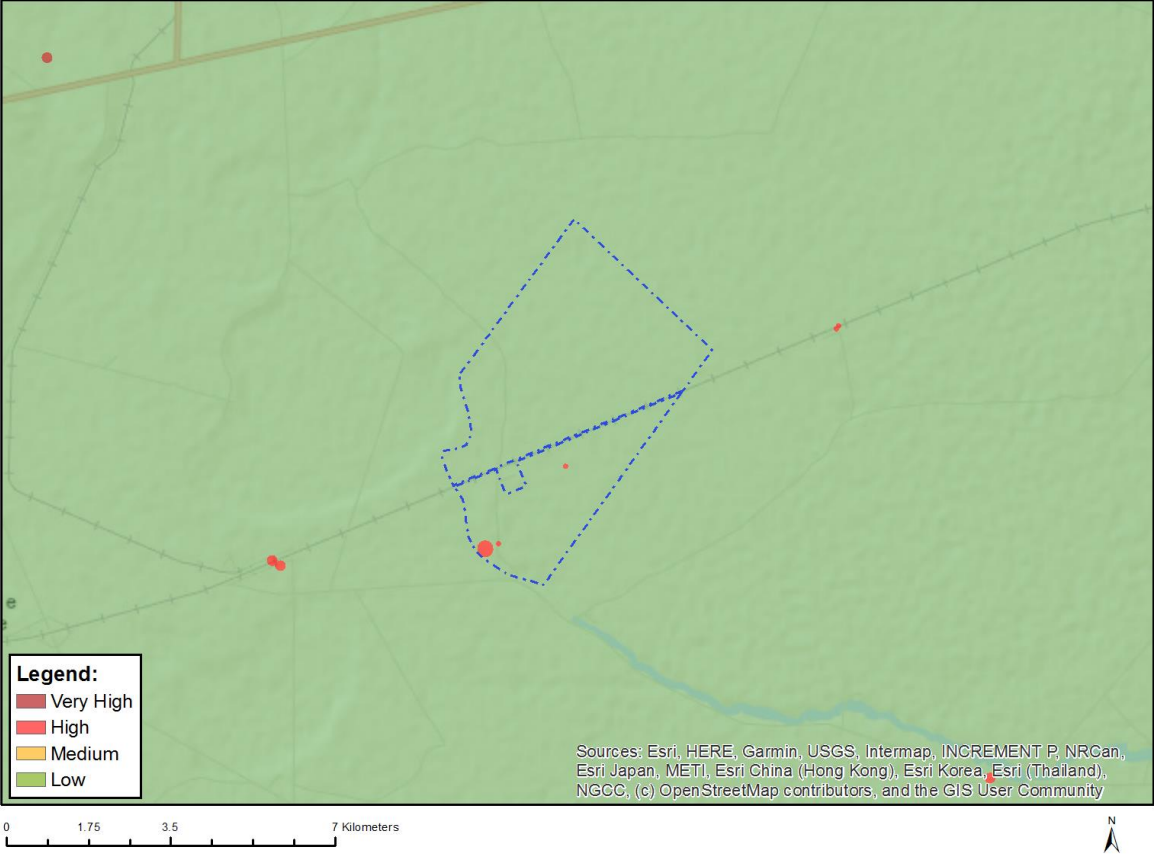


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| X | | | |

Sensitivity Features:

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

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

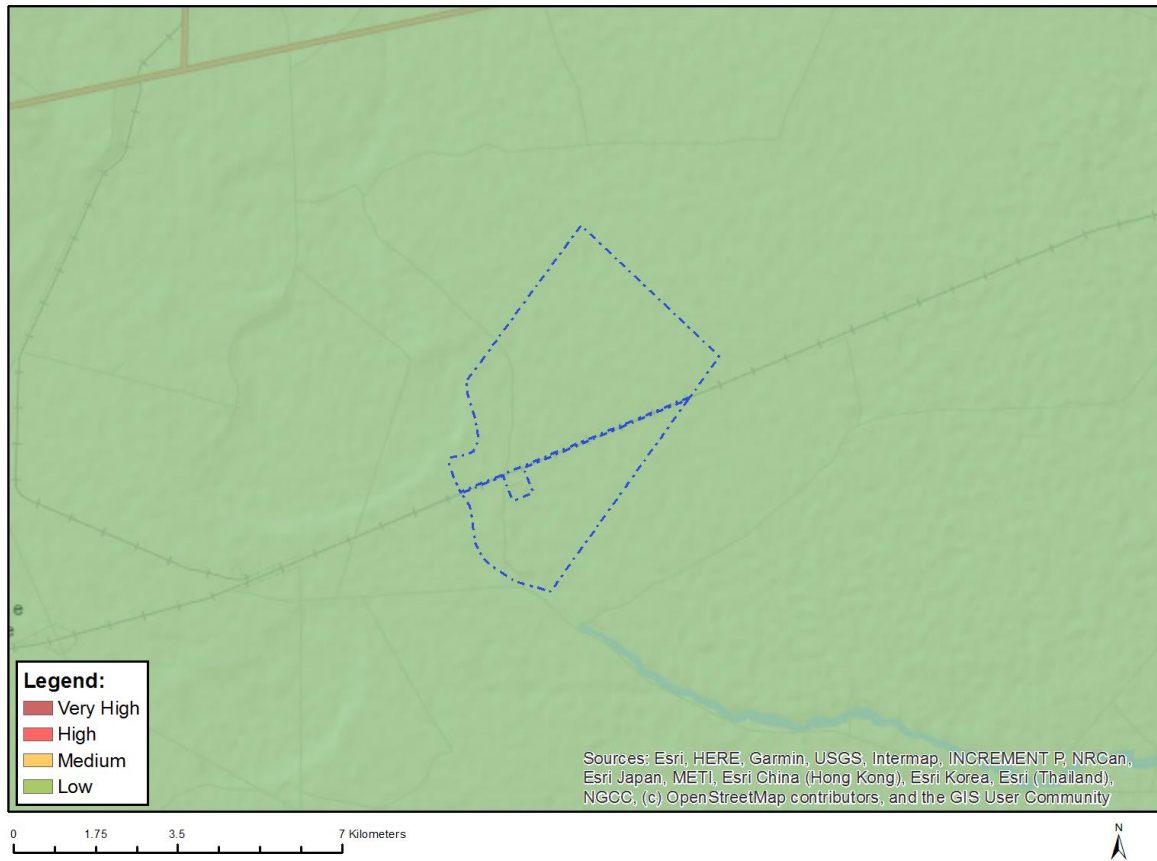


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | X | | |

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|---|
| High | Within 150m of a Grade IIIa Heritage site |
| High | Within 50m of a Grade IIIc Heritage site |
| Low | Low sensitivity |

MAP OF RELATIVE AVIAN THEME SENSITIVITY

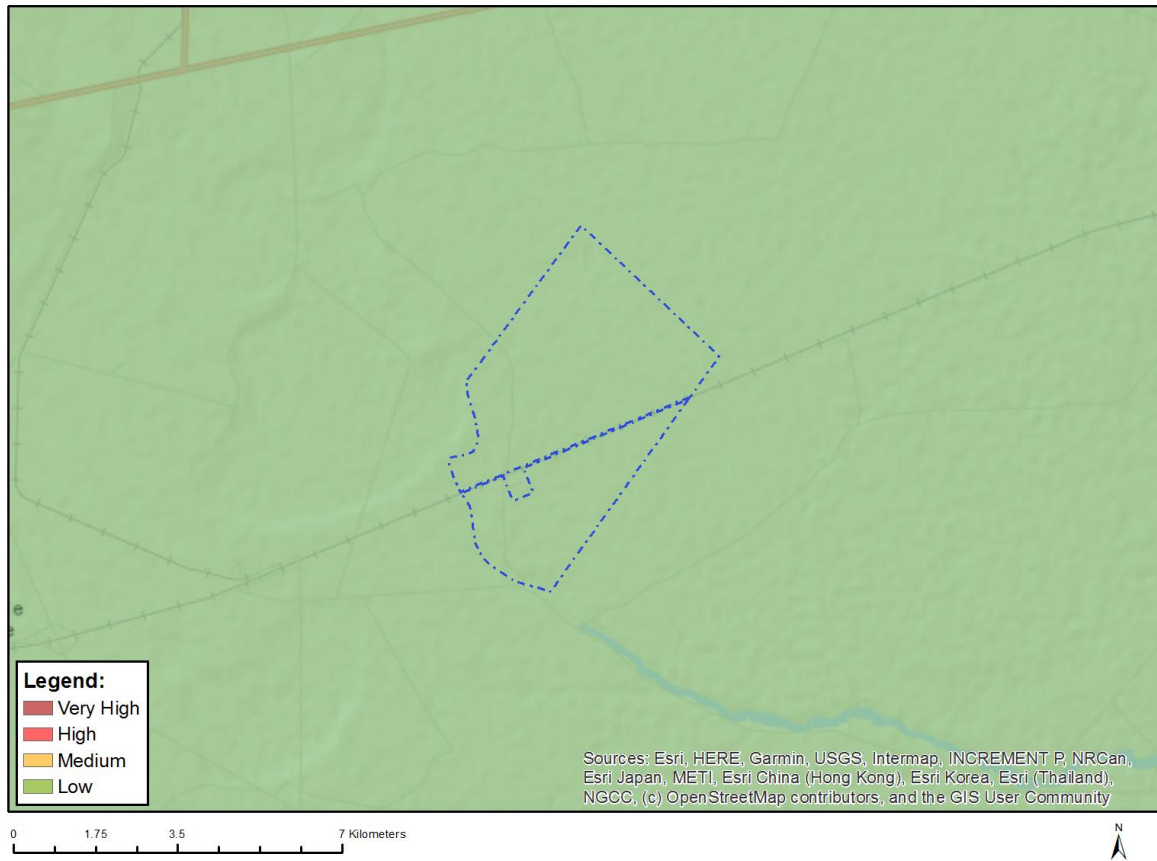


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | | | X |

Sensitivity Features:

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

MAP OF RELATIVE CIVIL AVIATION (SOLAR PV) THEME SENSITIVITY

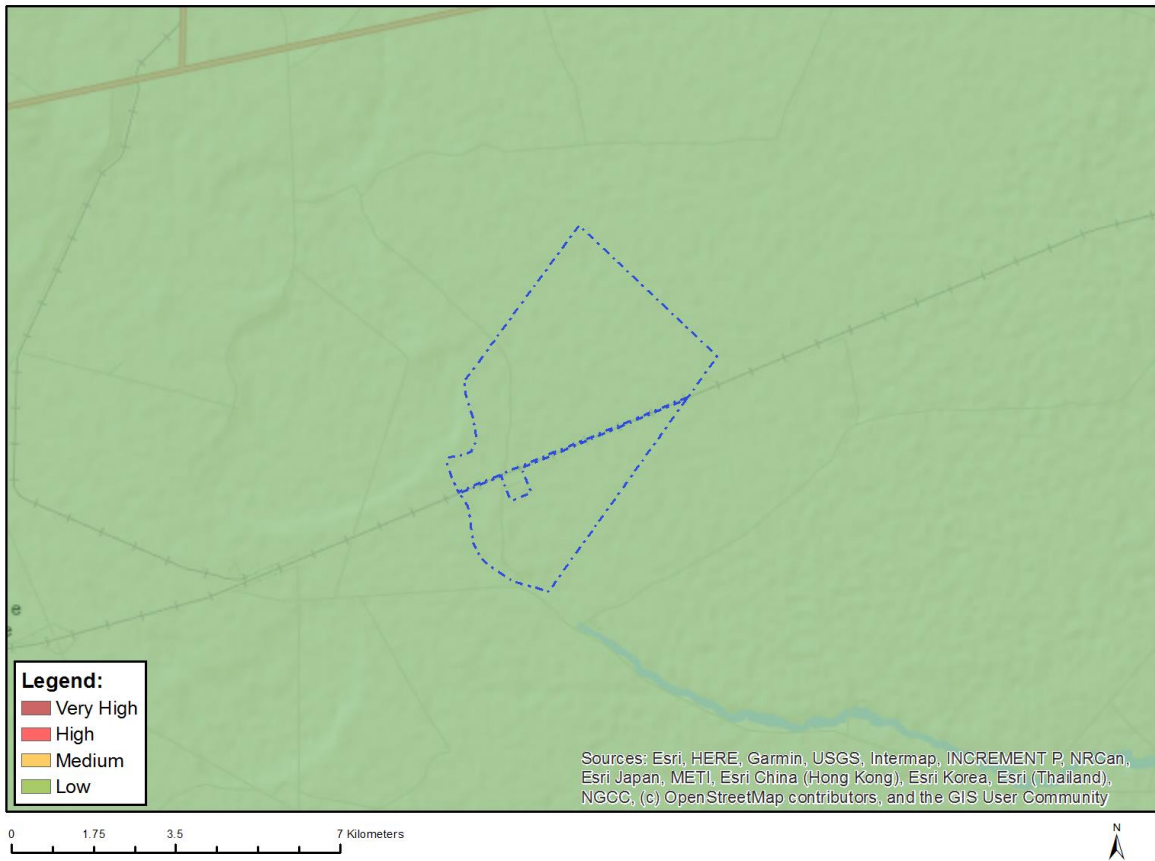


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | | | X |

Sensitivity Features:

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

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

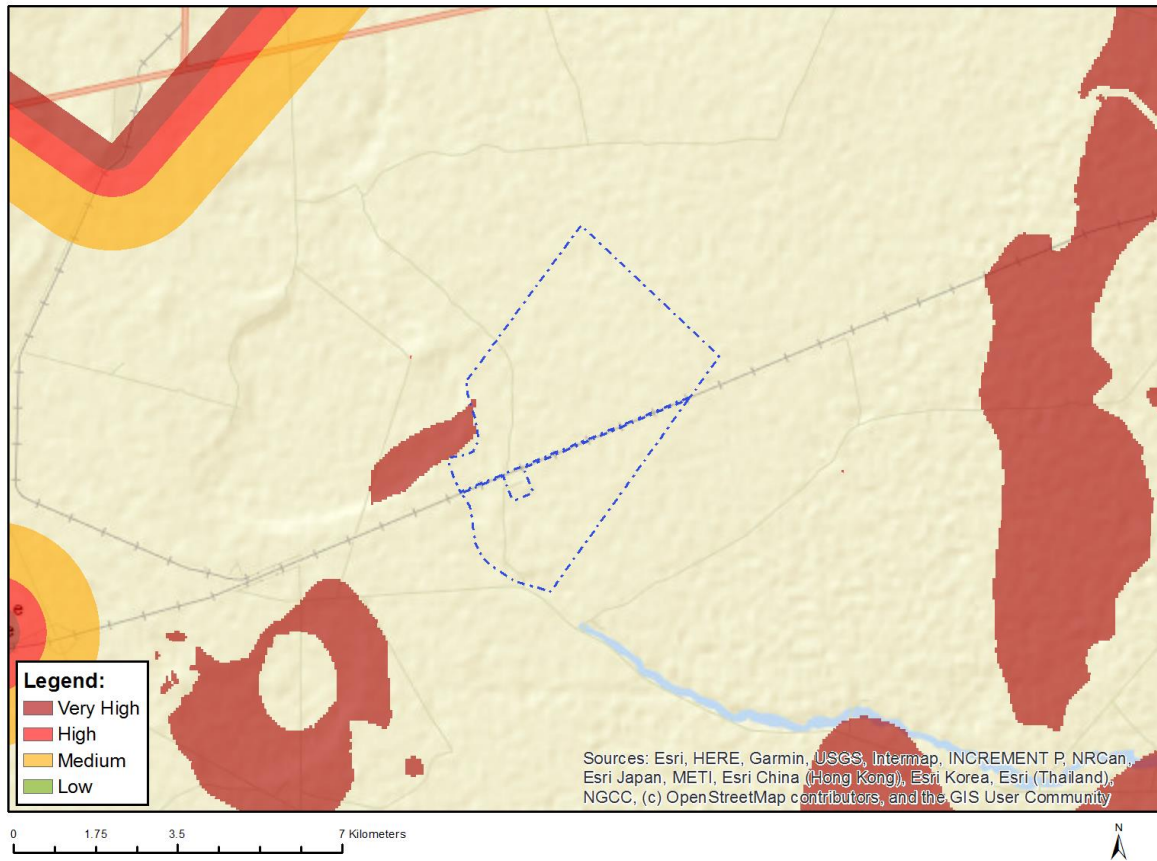


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | | | X |

Sensitivity Features:

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

MAP OF RELATIVE LANDSCAPE (SOLAR) THEME SENSITIVITY

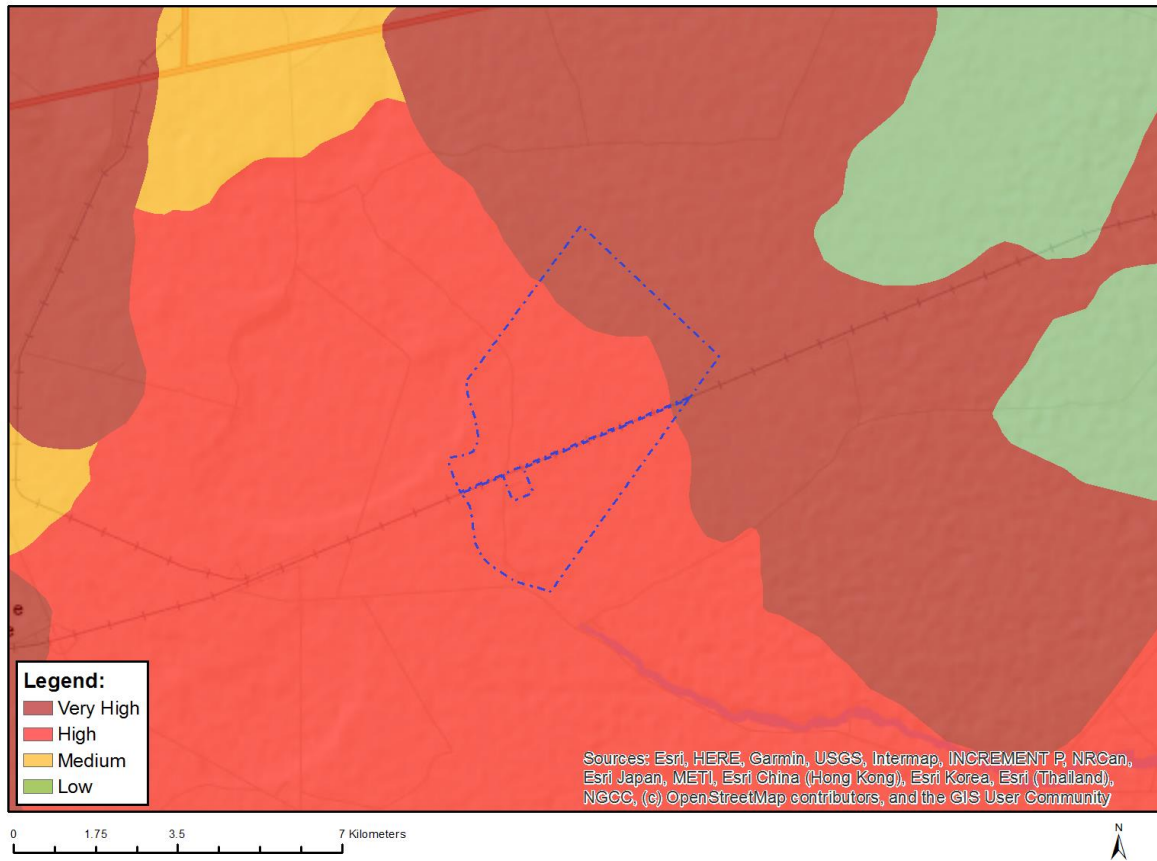


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| X | | | |

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|-------------------------------|
| Very High | Mountain tops and high ridges |

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

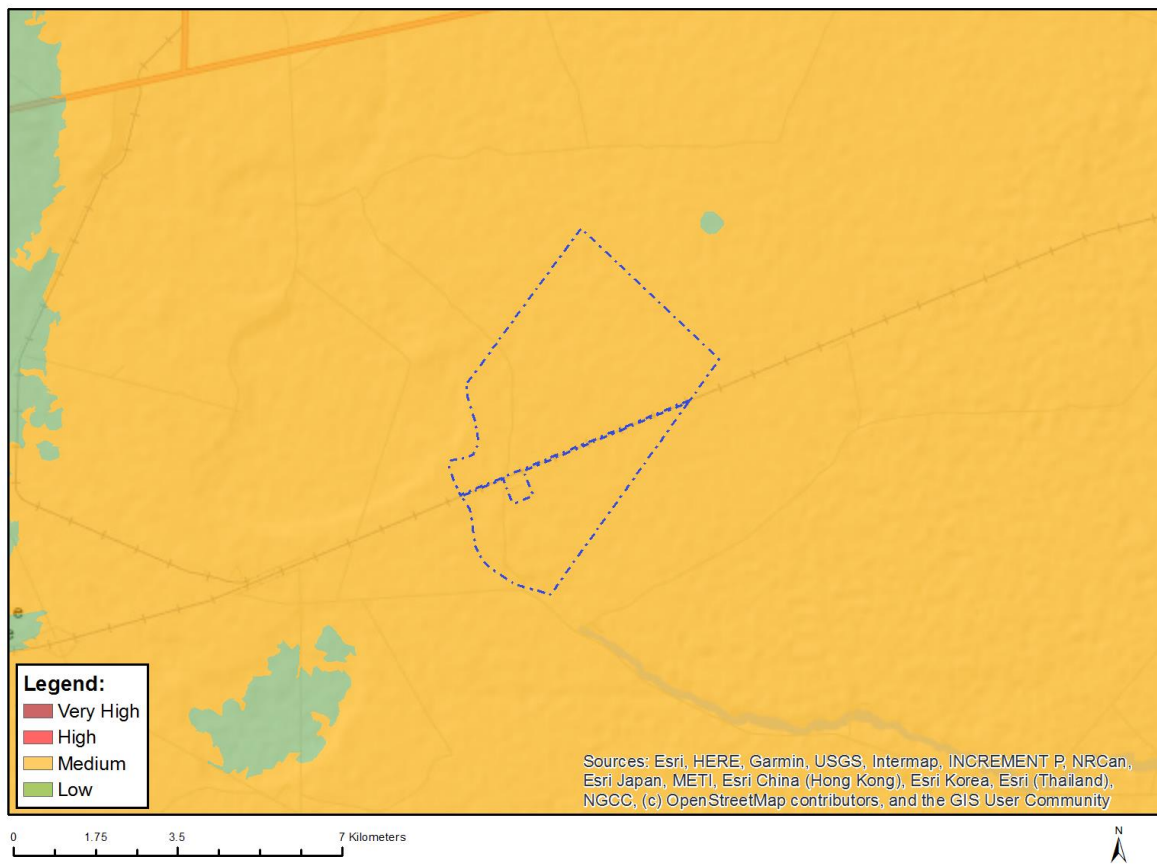


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| X | | | |

Sensitivity Features:

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

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



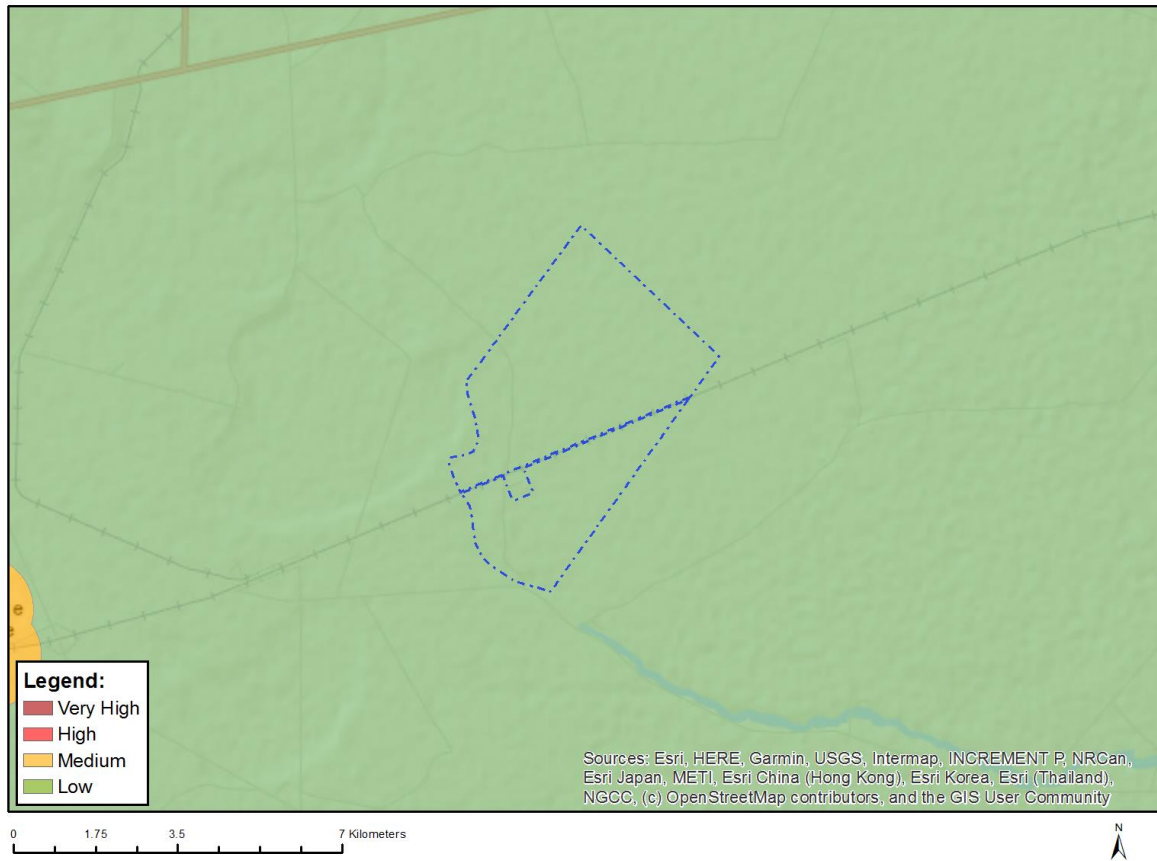
Where only a sensitive plant unique number or sensitive animal unique number is provided in the screening report and an assessment is required, the environmental assessment practitioner (EAP) or specialist is required to email SANBI at eiadatarequests@sanbi.org.za listing all sensitive species with their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

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

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|-----------------------|
| Medium | Antimima lawsonii |
| Medium | Pentzia oppositifolia |

MAP OF RELATIVE RFI THEME SENSITIVITY

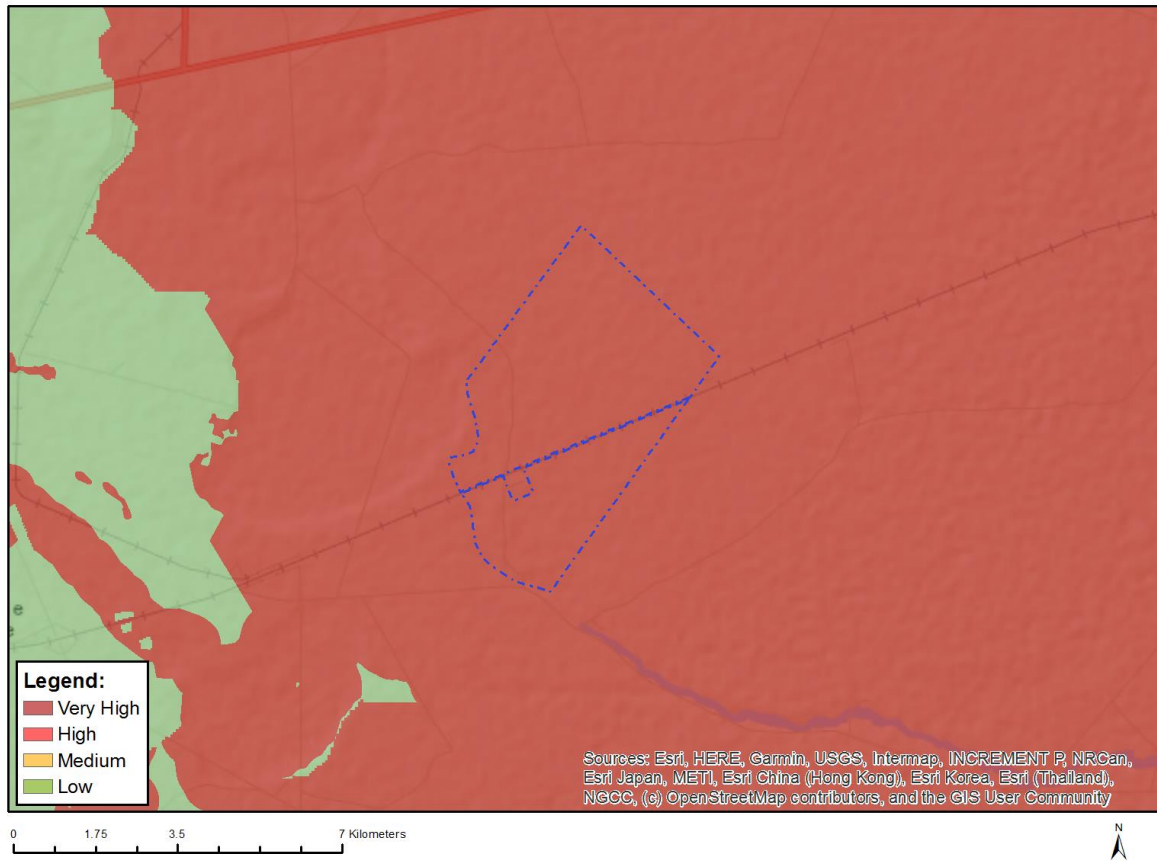


| Very High sensitivity | High sensitivity | Medium sensitivity | Low sensitivity |
|-----------------------|------------------|--------------------|-----------------|
| | | | X |

Sensitivity Features:

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

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



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

Sensitivity Features:

| Sensitivity | Feature(s) |
|-------------|------------------------------|
| Very High | Critical biodiversity area 1 |
| Very High | Critical biodiversity area 2 |
| Very High | FEPA Subcatchments |