

APPENDIX 1
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> 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> 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
<p>developer Environmental Officer (dEO)</p>	<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><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
Contractor	<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; <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> 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
<ul style="list-style-type: none"> - All staff must receive environmental awareness training prior to commencement of the activities; - The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course; - Refresher environmental awareness training is available as and when required; - All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr; - The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum: <ul style="list-style-type: none"> a) Safety notifications; and b) No littering. - 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; 	dEO / cEO	<ul style="list-style-type: none"> • Provide training to all personnel • Erect information posters • File record of training 	<ul style="list-style-type: none"> • Before workers start working onsite • Before new activities are undertaken 	ECO	Bi-monthly	<ul style="list-style-type: none"> • Keep record of training provided • Check training attendance register • Observe whether activities are executed in line with EMPr requirements

<p>b) Mitigation measures to be implemented when carrying out specific activities;</p>						
<p>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.</p> <ul style="list-style-type: none"> - A record of all environmental awareness training courses undertaken as part of the EMPr must be available; - Educate workers on the dangers of open and/or unattended fires; - A staff attendance register of all staff to have received environmental awareness training must be available. - Course material must be available and presented in appropriate languages that all staff can understand. 						

5.2 Site Establishment development

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), including but not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management; - Location of camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through; - Sites must be located where possible on previously disturbed areas; 	dEO / cEO	As defined and stipulated in a Method Statement.	<ul style="list-style-type: none"> • Submit to ECO no less than 7 days prior to intended date of ommencing an activity. • Prior to the establishment of a new construction camp. 	ECO	Bi-monthly	<ul style="list-style-type: none"> • Accepted method statement • Site camp suitably fenced • Signage in place.

<ul style="list-style-type: none"> - The camp must be fenced in accordance with Section 5.5: Fencing and gate installation; and - The use of existing accommodation for contractor staff, where possible, is encouraged. 						
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5.3 Access restricted areas

<p>Impact management outcome: Access to restricted areas prevented.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Identification of access restricted areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development; - Erect, demarcate and maintain a temporary barrier with clear signage around the perimeter of any access restricted area, colour coding could be used if appropriate; and - Unauthorised access and development related activity inside access restricted areas is prohibited. 	<p>dEO / cEO</p>	<p>As defined and stipulated in a Method Statement.</p>	<p>Start of construction in a new area.</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • Check no-go areas are demarcated. • Check for evidence of disturbance in no-go 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
<ul style="list-style-type: none"> - An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities; - All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition <ul style="list-style-type: none"> - All contractors must be made aware of all these access routes. - Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; - Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads; - In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with section 4.9: photographic record; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor; - Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands 	dEO / cEO	Signed agreement between DPM, Contractor and Landowner.	Prior to the use of access roads.	ECO	Bi-monthly	<ul style="list-style-type: none"> • Filed signed agreement between DPM, Contractor and Landowner. • Check condition of the private roads. • Check private roads are reinstatement to at least the original condition. • Check that areas where vegetation has been

<ul style="list-style-type: none"> - Access roads must only be developed on a pre-planned and approved roads. 						<p>encroached upon has been revegetated.</p> <ul style="list-style-type: none"> • Check that only approved access roads are used.
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5.5 Fencing and Gate installation

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Use existing gates provided to gain access to all parts of the area authorised for development, where possible; - Existing and new gates to be recorded and documented in accordance with section 4.9: photographic record; - All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; 	<p>dEO / cEO</p>	<ul style="list-style-type: none"> • Photograph existing and new gates. • Lock all gates during construction, unless otherwise 	<p>Start of construction</p>	<p>ECO</p>	<p>Bi-monthly</p>	

<ul style="list-style-type: none"> - At points where the line crosses a fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; - Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground; - Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate; - Original tension must be maintained in the fence wires; - All gates installed in electrified fencing must be re-electrified; - All demarcation fencing and barriers must be maintained in good working order for the duration of the development activities; - Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where applicable; - Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner. - All fencing must be developed of high quality material bearing the SABS mark; - The use of razor wire as fencing must be avoided; 		<p>agreed with the landowner.</p> <ul style="list-style-type: none"> • Obtain approval from landowners for the installation of gates, where required. • Re-electrify fencing. • Maintain fencing and barriers. • Removal all temporary fencing upon completion of construction 				
<ul style="list-style-type: none"> - Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff 						

<p>is away from site. Site security will be required at all times;</p> <ul style="list-style-type: none"> - On completion of the development phase all temporary fences are to be removed; - The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely. 						
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5.6 Water Supply Management

Impact management outcome: Undertake responsible water usage.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; - The Contractor must ensure the following: <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 	dEO / cEO	<ul style="list-style-type: none"> • Ensure relevant permits and licenses are obtained for water abstraction. • As defined and stipulated in a Method Statement. 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check pollution control measures installed at areas where effluent is generated or stored. • Check

<p>c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented.</p> <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; - Undertaking regular audits of water systems; and - Including a discussion on water usage and conservation during environmental awareness training. - The use of grey water is encouraged. 						<p>for evidence of water wastage.</p> <ul style="list-style-type: none"> • Check that water is recycled and reused where possible.
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5.7 Storm and waste water management

<p>Impact management outcome: Impacts to the environment caused by storm water and wastewater discharges during construction are avoided.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Runoff from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager; - All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; 	<p>dEO / cEO</p>	<ul style="list-style-type: none"> • Contain contaminated water for treatment or disposal at an approved location. • Remediate spills of 	<p>Throughout construction.</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • Check for evidence of on-site disposal. • Check effluent from cement batching is

<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; - 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. 		<p>oil or concrete.</p>				<p>controlled and collected.</p> <ul style="list-style-type: none"> • Check that spills have been addressed as specified. • Check availability of remediation material. • Check pollution control measures installed at areas where effluent is generated or stored.
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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
<ul style="list-style-type: none"> - All measures regarding waste management must be undertaken using an integrated waste management approach; - Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; - A suitably positioned and clearly demarcated waste collection site must be identified and provided; - The waste collection site must be maintained in a clean and orderly manner; - Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal; - Staff must be trained in waste segregation; - Bins must be emptied regularly; - General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company; - Hazardous waste must be disposed of at a registered waste disposal site; - Certificates of safe disposal for general, hazardous and recycled waste must be maintained. 	dEO / cEO	<ul style="list-style-type: none"> • Identify and demarcate waste collection area. • Ensure waste is separated into labelled waste bins (e.g. recycling). • Include waste segregation in environmental awareness training. • File all waste disposal receipts. 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check bins provided on site. • Check designated waste storage area. • Check records of recycling waste. • Check waste disposal receipts.

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
<p>General:</p> <ul style="list-style-type: none"> - Indigenous vegetation which does not interfere with the development must be left undisturbed; - Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; 	dEO / cEO	<ul style="list-style-type: none"> • Restrict vegetation clearance to the immediate development footprint. • Obtain necessary permits for the relocation and / or destruction of any protected trees. • Demarcate the construction footprint with visible barriers (i.e 	Prior to construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check size of area cleared relative to development footprint • Check size of area disturbed outside of construction site boundary • Check Permit on file.
<ul style="list-style-type: none"> - Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; - Permits for removal must be obtained from the relevant CA prior to the cutting or clearing of the affected species, and they must be filed; - The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals; - Trees felled due to construction must be documented and form part of the Environmental Audit Report; 						

<ul style="list-style-type: none"> - Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; - Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained; - A daily register must be kept of all relevant details of herbicide usage; - No herbicides must be used in estuaries; - All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance to Section 5.3: Access restricted areas. <p>Alien invasive vegetation must be removed and disposed of at a licensed waste management facility.</p>		<p>safety tape / fencing).</p> <ul style="list-style-type: none"> • Erect signage to demarcate the construction footprint. • Designate areas outside the 				
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5.11 Protection of fauna

<p>Impact management outcome: Disturbance to fauna is minimised.</p>		
<p>Impact Management Actions</p>	<p>Implementation</p>	<p>Monitoring</p>

	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; - The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme; - Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present; - Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; - No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas; - No deliberate or intentional killing of fauna is allowed; - In areas where snakes are abundant, snake deterrents to be deployed on the pylons to prevent snakes climbing up, being electrocuted and causing power outages; and - No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances 	dEO / cEO	<ul style="list-style-type: none"> • Undertake regular ECO audits / inspections to report on compliance with the EMPr requirements. • Restrict construction activities to the immediate development footprint. • Apply a no poaching policy on site. • Ensure that Permits for the relocation of animals are obtained, if required. • Include avifauna impacts of off-road driving in the construction staff 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check Percentage compliance with EMPr requirements in ECO Reports. • Check Permits on file. • Check size of area disturbed outside of construction site boundary. • Check environmental awareness training documentation.

may be removed and/or relocated without appropriate authorisations/permits.		environmental awareness training.				
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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
<ul style="list-style-type: none"> - Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in Section 5.3: Access restricted areas; - Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance; - All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences. 	dEO / cEO	<ul style="list-style-type: none"> • Implement a chance find procedure for palaeontology and heritage finds. • Put aside and photograph any fossils found during excavations and send pictures to a palaeontologist to assess their scientific importance. • If deemed important, the 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Review chance finds procedure and check evidence of compliance. • Check photographic record on file • Check evidence of correspondence with palaeontologist on file.

		palaeontologist must obtain a SAHRA permit and remove stromatolites to a recognised repository.				
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5.13 Safety of the public

Impact management outcome: All precautions are taken to minimise the risk of injury, harm or complaints.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.; - All unattended open excavations must be adequately fenced or demarcated; - Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; - Ensure structures vulnerable to high winds are secured; - Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 	dEO / cEO	<ul style="list-style-type: none"> • Notify local authority of potential fire threats. • Document incident and complaints. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check local authority notification. • Check open excavation are fenced or demarcated. • Check that structures are secured. • Check complaints

<p>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>					<ul style="list-style-type: none"> • Check for external closing mechanism. • Check toilet servicing receipt.
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5.15 Prevention of disease

<p>Impact Management outcome: All necessary precautions linked to the spread of disease are taken.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Undertake environmentally-friendly pest control in the camp area; - Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV AIDS; - The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area; - Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable; 	<p>dEO / cEO</p>	<p>As defined and stipulated in a Method Statement</p>	<p>Throughout construction</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • Check for records of pest control in the camp. • Check that information posters on AIDS are

<ul style="list-style-type: none"> - Free condoms must be made available to all staff on site at central points; - Medical support must be made available; - Provide access to Voluntary HIV Testing and Counselling Services. 					<p>displayed at the Contractors Camp.</p> <ul style="list-style-type: none"> • Check that medical support is available if required.
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5.16 Emergency procedures

<p>Impact management outcome: Emergency procedures are in place to enable a rapid and effective response to all types of environmental emergencies.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; - The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; - All staff must be made aware of emergency procedures as part of environmental awareness training; 	<p>dEO / cEO</p>	<ul style="list-style-type: none"> • Compile ERAP. • Inform staff of the ERAP. • Inform local authorities immediately in the event of a fire. 	<p>Throughout construction</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • Check ERAP is on file. • Check content of ERAP. • Check content of environmental awareness

<ul style="list-style-type: none"> - The relevant local authority must be made aware of a fire as soon as it starts; - In the event of emergency necessary mitigation measures to contain the spill or leak must be implemented (see Hazardous Substances section 5.17). 						training documentation.
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5.17 Hazardous substances

Impact management outcome: Safe storage, handling, use and disposal of hazardous substances.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - The use and storage of hazardous substances to be minimised and non-hazardous and non-toxic alternatives substituted where possible; - All hazardous substances must be stored in suitable containers as defined in the Method Statement; - Containers must be clearly marked to indicate contents, quantities and safety requirements; - All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers; 	dEO / cEO	As per approved Method Statement.	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check procedures for storage of potential pollutants and hazardous substances. • Check hazardous material storage

<ul style="list-style-type: none"> - Bunded areas to be suitably lined with a SABS approved liner; - An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis; - All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS); - All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet; - Employees handling hazardous substances / materials must be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available; 						<p>facilities.</p> <ul style="list-style-type: none"> • Check the HCS control sheet. • Check MSDS are on file. • Check that staff are using PPE. <p>Check refuelling areas are established.</p> <ul style="list-style-type: none"> • Check use of drip trays..
<ul style="list-style-type: none"> - The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsers; - The tanks/ bowsers must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall); - The floor of the bund must be sloped, draining to an oil separator; 						

<ul style="list-style-type: none"> - Provision must be made for refueling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; - All empty externally dirty drums must be stored on a drip tray or within a bunded area; - No unauthorised access into the hazardous substances storage areas must be permitted; - No smoking must be allowed within the vicinity of the hazardous storage areas; - Adequate fire-fighting equipment must be made available at all hazardous storage areas; - Where refueling away from the dedicated refueling station is required, a mobile refueling unit must be used. Appropriate ground protection such as drip trays must be used; - An appropriately sized spill kit kept onsite relevant to the scale of the activity/s involving the use of hazardous substance must be available at all times; - The responsible operator must have the required training to make use of the spill kit in emergency situations; - An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken; 						
<ul style="list-style-type: none"> - In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to Section 5.7 for procedures concerning storm and waste water 						

management and **5.8** for **solid and hazardous waste management**.

5.18 Workshop, equipment maintenance and storage

Impact management outcome: Soil, surface water and groundwater contamination is minimised.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area; - During servicing of vehicles or equipment, especially where emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. The relevant local authority must be made aware of a fire as soon as it starts; - Leaking equipment must be repaired immediately or be removed from site to facilitate repair; - Workshop areas must be monitored for oil and fuel spills; 	dEO / CEO	<ul style="list-style-type: none"> • Ensure drip trays are used during maintenance and repairs. • Notify local authorities in the event of a fire. • Ensure water drained from the workshop is contained. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check repairs take place in the workshop area. • Check drip trays are used during maintenance and repairs. • Check for evidence of leaks.

<ul style="list-style-type: none"> - Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; - The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil 						<ul style="list-style-type: none"> • Check inspection / maintenance records.
<ul style="list-style-type: none"> - / water separator where maintenance work on vehicles and equipment can be performed; - Water drainage from the workshop must be contained and managed in accordance Section 5.7: Storm and waste water management. 						

5.19 Batching plants

Impact management outcome: Minimise spillages and contamination of soil, surface water and groundwater.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Concrete mixing must be carried out on an impermeable surface; - Batching plants areas must be fitted with a containment facility for the collection of cement laden water. - Dirty water from the batching plant must be contained to prevent soil and groundwater contamination 	Contractor / cEO	<ul style="list-style-type: none"> • Batch cement in a bunded area within the boundaries of the development footprint only. • Ensure that 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check for evidence of batching activities on exposed soil. • Check cement

<ul style="list-style-type: none"> - Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains; - A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; - Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licenced disposal facility; - Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; 		<p>cement is mixed on mortar boards and not directly on the ground (where unavoidable).</p> <ul style="list-style-type: none"> • Design and construct a containment facility for cement wash water. • Store cement at least 50m Away from watercourses, gullies and drains. • Fence the batching plants. 			<p>wash water containment facility.</p> <ul style="list-style-type: none"> • Check bins are provided. • Check for dust emanating from the batching area. • Check excess sand, stone and cement is removed or reused on site. • Check batching plants are fenced.
<ul style="list-style-type: none"> - Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to Section 5.20: Dust emissions) - Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility; - Temporary fencing must be erected around batching plants in accordance with Section 5.5: Fencing and gate installation. 					

5.20 Dust emissions

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO; - Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re-vegetated or stabilised as soon as is practically possible; - Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when a visible dust plume is present; - During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level; 	cEO	<ul style="list-style-type: none"> • Regularly evaluate the effectiveness of all dust management measures. Amend how or which measures are used if necessary. • As per approved Method Statement. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check for dust coming off construction site. • Check dust mitigation measures in place. • Check number of dust complaints.
<ul style="list-style-type: none"> - Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; - Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; - Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; 						

<ul style="list-style-type: none"> - Straw stabilisation must be applied at a rate of one bale/10 m² and harrowed into the top 100 mm of top material, for all completed earthworks; - For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 					
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5.21 Blasting

<p>Impact management outcome: Impact to the environment is minimised through a safe blasting practice.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Any blasting activity must be conducted by a suitably licensed blasting contractor; and - Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site. 	<p>dEO / cEO</p>	<ul style="list-style-type: none"> • Appoint suitably licensed blasting contractor. • Notify surrounding landowners, emergency services and site personnel of blasting. 	<p>Throughout construction a Notify at least 24 hours prior to blasting.</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • Check appointed contractor is appropriately licenced. • Check notification of blasting.

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
<ul style="list-style-type: none"> - The Contractor must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only; - All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; - Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers; - Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. Operating hours as determined by the environmental authorisation are adhered to during the development phase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management. 	dEO / cEO	<ul style="list-style-type: none"> • Investigate potential noise reduction measures, such as mufflers on equipment, if complaints regarding construction noise are received. • Limit noisy construction activities to day-time from Monday to Friday or in accordance with relevant municipal bylaws, if applicable. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check number of noise complaints.

5.23 Fire prevention

Impact management outcome: Prevention of uncontrollable fires.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Designate smoking areas where the fire hazard could be regarded as insignificant; - Firefighting equipment must be available on all vehicles located on site; - The local Fire Protection Agency (FPA) must be informed of construction activities; - Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; - Two way swop of contact details between ECO and FPA. 	dEO / cEO	<ul style="list-style-type: none"> • Designate smoking areas. • Procure firefighting equipment. • Liaise with the FPA where required. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check designated smoking area. • Check firefighting equipment is available.

5.24 Stockpiling and stockpile areas

Impact management outcome: Reduce erosion and sedimentation as a result of stockpiling.
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Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, watercourses and water bodies; - All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; 	dEO / cEO	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • Locate topsoil stockpiles in an area protected from the wind, and agreed to with the ECO. • Ensure suitable control of run-off during the construction phase to prevent erosion of topsoil on adjacent land and undeveloped portions of the site. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Visually inspect for incidence of erosion.
<ul style="list-style-type: none"> - Topsoil stockpiles must not exceed 2 m in height; - During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.); - Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material. 						

5.25 Civil works

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - 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; - Areas to be rehabilitated include terrace embankments and areas outside the high voltage yards; - Where required, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; - 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; - Rehabilitation of the disturbed areas must be managed in accordance with Section 5.35: Landscaping and rehabilitation; 	dEO / cEO	<ul style="list-style-type: none"> • Stockpile topsoil for rehabilitation. • Ensure erosion control is implemented on site. • Replace harvested topsoil in areas that are to be rehabilitated as soon as sections of the works are completed (i.e. not only following the 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check for incidence of incorrect storage and harvesting of topsoil. • Visually inspect for incidence of erosion.
<ul style="list-style-type: none"> - All excess spoil generated during terracing activities must be disposed of in an appropriate manner and at a recognised landfill site; and - Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes. 						

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
<ul style="list-style-type: none"> - 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; - Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; - Management of equipment for excavation purposes must be undertaken in accordance with Section 5.18: Workshop, equipment maintenance and storage; and - Hazardous substances spills from equipment must be managed in accordance with Section 5.17: Hazardous substances. 	dEO / cEO	<ul style="list-style-type: none"> • Dispose of excess spoil at a licensed landfill site, if not used for backfilling. 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check use of spoil on site.

5.27 Installation of foundations, cable trenching and drainage systems

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

Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Batching of cement to be undertaken in accordance with Section 5.19: Batching plants; and - Residual solid waste must be disposed of in accordance with Section 5.8: Solid waste and hazardous management. 	dEO / cEO	• As per section 5.19 and section 5.8.	Throughout construction	ECO	Bi-monthly	• As per section 5.19 and section 5.8.

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
<ul style="list-style-type: none"> - Management of dust must be conducted in accordance with Section 5.20: Dust emissions; - Management of equipment used for installation must be conducted in accordance with Section 5.18: Workshop, equipment maintenance and storage; - Management hazardous substances and any associated spills must be conducted in accordance with Section 5.17: Hazardous substances; and 	dEO / cEO	• As per section 5.20, 5.18, 5.17 and 5.8	Throughout construction	ECO	Bi-monthly	• As per section 5.20, 5.18, 5.17 and 5.8

- Residual solid waste must be recycled or disposed of in accordance with Section 5.8: Solid waste and hazardous management.						
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5.29 Steelwork Assembly and Erection

Impact management outcome: No environmental degradation occurs as a result of steelwork assembly and erection.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - During assembly, care must be taken to ensure that no wasted/unused materials are left on site e.g. bolts and nuts - 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. 	dEO / cEO	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • As per section 5.18. 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check that wasted or unused material is collected and removed from site. • As per section 5.18.

5.30 Cabling and Stringing

Impact management outcome: No environmental degradation occurs as a result of stringing.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - Residual solid waste (off cuts etc.) shall be recycled or disposed of in accordance with Section 6.8: Solid waste and hazardous Management; - Management of equipment used for installation shall be conducted in accordance with Section 5.18: Workshop, equipment maintenance and storage; - Management hazardous substances and any associated spills shall be conducted in accordance with Section 5.17: Hazardous substances. 	dEO / cEO	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • As per section 6.8, 5.18 and 5.17 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check waste disposal receipts. • Check for litter on site. • Evidence of hazardous waste spills. • As per section 6.8, 5.18 and 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.	dEO / cEO	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • As per section 5.8 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Waste disposal receipts. • Check for litter on site. • As per section 5.8

Impact management outcome: enhanced socio-economic development.

Impact Management Actions	Implementation	Monitoring
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5.32 Socio-economic

	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	<ul style="list-style-type: none"> • Develop and implement communication strategies. 	Throughout construction and maintenance	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check methods developed for

<ul style="list-style-type: none"> - Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process; - Sustain continuous communication and liaison with neighboring owners and residents - Create work and training opportunities for local stakeholders; and - Where feasible, no workers, with the exception of security personnel, must be permitted to stay over-night on the site. This would reduce the risk to local farmers. 		<ul style="list-style-type: none"> • Develop approach to conflict resolution. • Communicate with neighbouring landowners and residents. • Create job opportunities for local workers. 				<p>communication.</p> <ul style="list-style-type: none"> • Check communication with neighbouring landowners and residents. • Check that no workers are staying overnight on the site.
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5.33 Temporary closure of site

<p>Impact management outcome: Minimise the risk of environmental impact during periods of site closure greater than five days.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - 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 	<p>dEO / cEO</p>	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • As per section 5.17 and 5.18 	<p>Throughout construction</p>	<p>ECO</p>	<p>Bi-monthly</p>	<ul style="list-style-type: none"> • As per section 5.17 and 5.18 • Check that bunds and drip

<p>5.18: Workshop, equipment maintenance and storage; - Hazardous storage areas must be well ventilated;</p> <ul style="list-style-type: none"> - Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; - Emergency and contact details displayed must be displayed; - Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; - Night hazards such as reflectors, lighting, traffic signage etc. must have been checked; - Fire hazards identified and the local authority must have been notified of any potential threats e.g. large brush stockpiles, fuels etc.; - Structures vulnerable to high winds must be secured; - Wind and dust mitigation must be implemented; - Cement and materials stores must have been secured; - Toilets must have been emptied and secured; - Refuse bins must have been emptied and secured; - Drip trays must have been emptied and secured. 		<ul style="list-style-type: none"> • Store hazardous substances in well-ventilated area. • Ensure that bunds and drip trays are emptied and effluent appropriately disposed of. • Ensure fire extinguishers are accessible and serviced. • Display emergency contact details. • Secure any structures vulnerable to high winds. • Erosion control must be implemented. • Toilets and bins must be emptied. 			<p>trays are emptied of effluent.</p> <ul style="list-style-type: none"> • Check that hazardous substances are stored in a well ventilated area. • Check that firefighting equipment is serviced and accessible. • Check that communication to local authorities are filed, if necessary. • Check that structures vulnerable to high winds are secured. • Check that erosion control measures are implemented. • Check toilet servicing slips. • Check that bins have been emptied.
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5.34 Dismantling of old equipment

Impact management outcome: Impact to the environment to be minimised during the dismantling, storage and disposal of old equipment commissioning.						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - All old equipment removed during the project must be stored in such a way as to prevent pollution of the environment; - Oil containing equipment must be stored to prevent leaking or be stored on drip trays; - All scrap steel must be stacked neatly and any disused and broken insulators must be stored in containers; - 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; - The Contractor must also be equipped to contain and clean up any pollution causing spills; and - Disposal of unusable material must be at a licensed waste disposal site. 	dEO / cEO	<ul style="list-style-type: none"> • Plant should be placed on drip trays. • Materials should be stored neatly on site. • Remove all equipment or material that may cause pollution. • Ensure that there is a spill kit present on site. 	Throughout construction	ECO	Bi-monthly	<ul style="list-style-type: none"> • Check for evidence of spills or leaks. • Check that materials are stored neatly on site. • Check waste disposal receipts.

<ul style="list-style-type: none"> - All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; - Berms that have been created must have a slope of 1:4 and be replanted with indigenous species and grasses that approximates the original condition; - Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners; - Rehabilitation of access roads outside of farmland; - Indigenous species must be used for with species and/grasses to where it compliments or approximates the original condition; - Stockpiled topsoil must be used for rehabilitation (refer to Section 5.24: Stockpiling and stockpiled areas); - Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; - Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; - Subsoil must be ripped before topsoil is placed; - The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; 						
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<ul style="list-style-type: none"> - Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled; - Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; - Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil. 						
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5.35 Landscaping and rehabilitation

<p>Impact management outcome: Areas disturbed during the development phase are returned to a state that approximates the original condition.</p>						
Impact Management Actions	Implementation			Monitoring		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
<ul style="list-style-type: none"> - 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; - 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 	<p>dEO / CEO</p>	<ul style="list-style-type: none"> • As defined and stipulated in a Method Statement. • Ensure that slope are assessed for contouring and terracing. 	<p>Throughout construction</p>	<p>ECO</p>	<p>Bi-monthly</p>	<p>Check that areas disturbed as a result of construction have been rehabilitated.</p> <ul style="list-style-type: none"> • Check that access roads

<p>- 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:</p> <ul style="list-style-type: none"> a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; e) The final product must not cause an ecological imbalance in the area 		<ul style="list-style-type: none"> • Ensure that access roads are rehabilitated. • Rehabilitate with indigenous species. • Ensure that top soil is used for rehabilitation rather than backfilling. 			<p>have been rehabilitated.</p> <ul style="list-style-type: none"> • Check that indigenous species are used for rehabilitation purposes. • Check that topsoil is used for rehabilitation. • Check that all sloped areas have appropriate erosion control
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6 ACCESS TO THE GENERIC EMPr

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

PART B: SECTION 2

7 SITE SPECIFIC INFORMATION AND DECLARATION

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

7.1.1 Details of the applicant:

Name of applicant:	Hercules Solar PV1 (Pty) Ltd
Contact Person:	Andrew Pearson (signing on behalf of Mr. Russell Bedford)
Tel No:	021 685 3240
Fax No:	N/A
Postal Address:	Suite 53 Private Bag X21 Howard Place Western Cape
Physical Address:	21st Floor, Portside 5 Buitengracht Street, Cape Town City Centre, Western Cape 8001

7.1.2 Details and expertise of the EAP:

Name of EAP:	Sharples Environmental Services CC
Designated EAP:	Madeleine Knoetze
Tel No:	021 554 5195
Fax No:	086 575 2869
E-mail address:	madeleine@sesc.net
Expertise of the EAP (Curriculum Vitae included):	BSc (Environmental Sciences) EAPASA Reg Nr. 2021/3230

7.1.3 Project Name: PROPOSED DEVELOPMENT A 132KV POWERLINE LEADING TO THE HERCULES SOLAR PV1 FACILITY ON THE REMAINDER OF THE FARM RIET FOUNTAIN 6, EMTHANJENI LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.

7.1.4 Description of the project: Hercules Solar PV1 (Pty) Ltd proposes the development of an overhead powerline and on-site Eskom Switching Station will include the development of an Independent Power Producer (IPP) substation with a transmission capacity of up to 132kV. An allocated area of 1.0 ha has been earmarked for the purpose of establishing an on-site Eskom Switching Station Substation area.

It should be noted that Eskom's requirements for work in or near Eskom servitudes should be adhered to.

Please note that the Solar PV Facility does not fall within the ambit of this application or EMPr and was described through a separate authorisation process. This is the Generic EMPR specifically for the Eskom Switching Substation.

7.1.5 Project location: The project will be accessible from a divisional road leading from the N10-Highway. The property upon which the IPP substation will be located upon has been highlighted in the table below.

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.

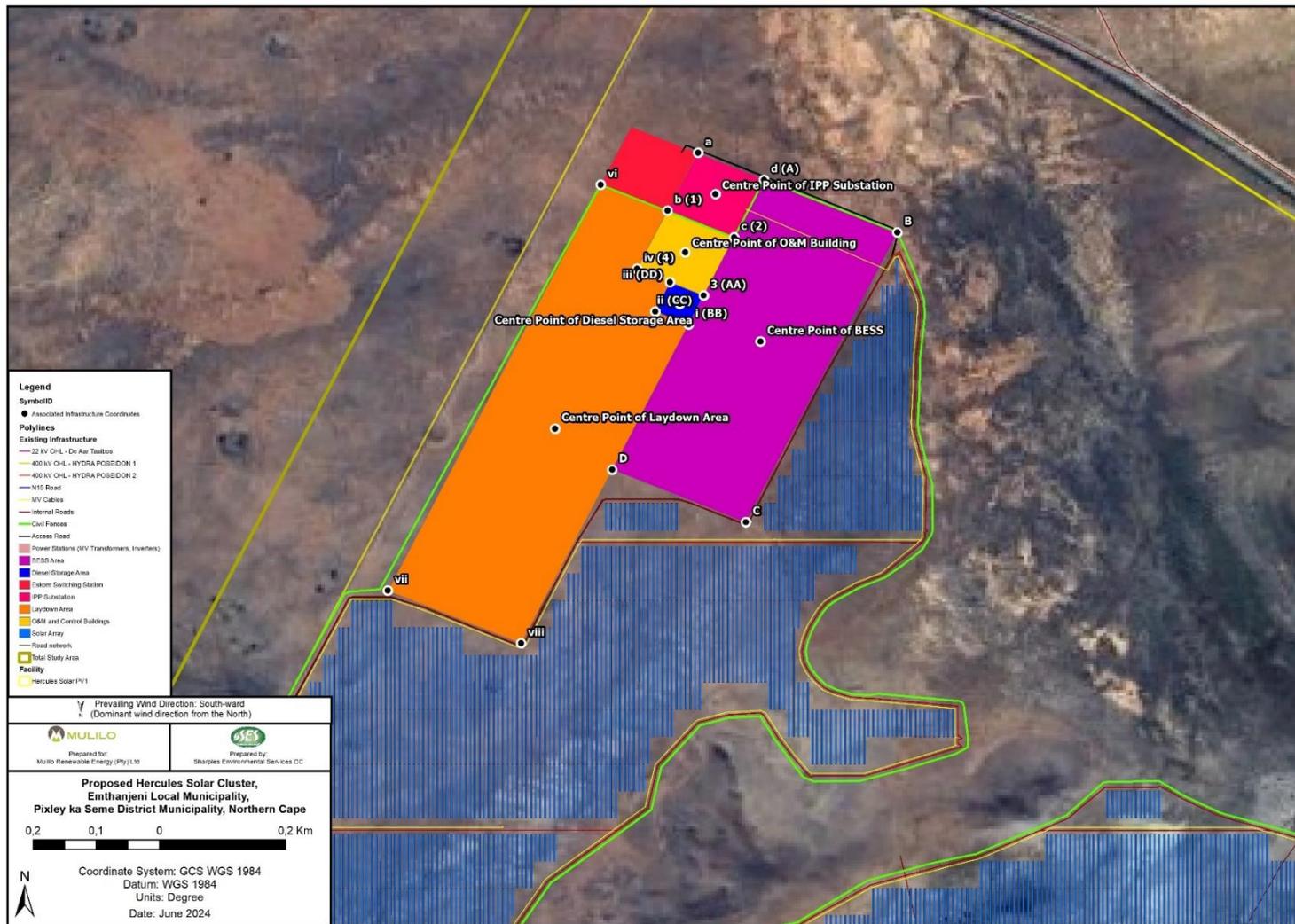


Figure 2: Site sensitivity map as provided in the EIAR for the proposed Development.

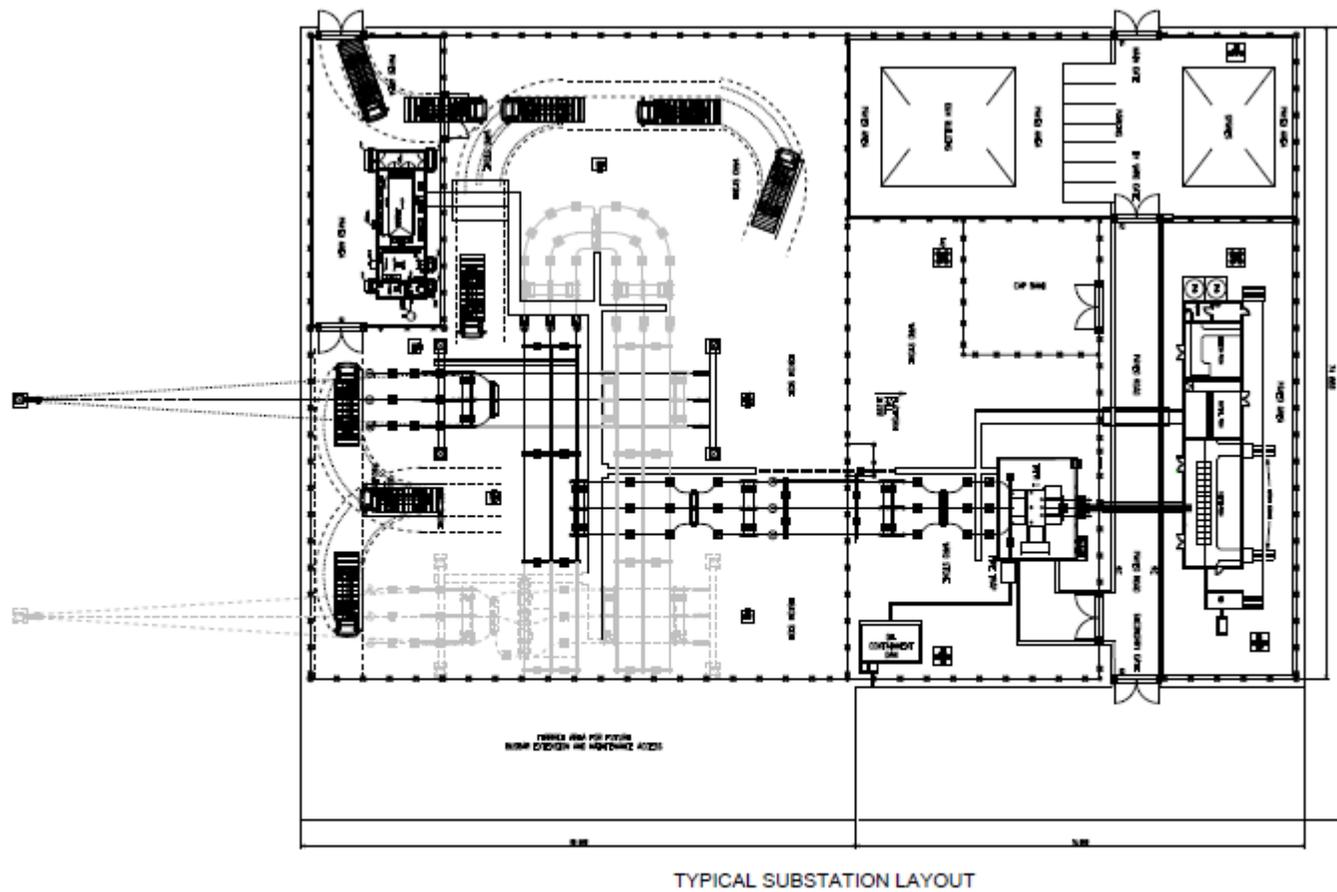


Figure 3: Image of a typical substation design

7.3 Sub-section 3: Declaration

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

Signature Proponent/applicant/ holder of EA

Date:

To be signed upon submission of final

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. Environmental Specifications

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.

8.1. Environmental actions and outcomes applicable to the Planning / Pre-Construction Phase

Impact Management Objective: To appoint a suitably qualified and experienced environmental control officer and an environmental auditor and				
Potential impact to avoid	<ul style="list-style-type: none"> Failure to appoint an ECO and Environmental Auditor will result in non-compliance with the requirements of the EMPr. Non-compliance and site closure due to the site not undergoing the necessary assessments and approval processes. 			
Impact Management Outcome	The requirements of the EMPr are implemented and monitored during all phases of the development, which will promote sound environmental management on site.			
IMPACT MANAGEMENT ACTIONS				
Mitigation measure	Responsible party	Frequency	Time period	
Environmental Auditor & Control Officer <ul style="list-style-type: none"> A suitably qualified and experienced Environmental Auditor must be appointed before any activities commence on site. A suitably qualified and experienced Environmental Control Officer (ECO) must be appointed before any activities commence on site. The appointed ECO must be advised of the construction start date, at least two weeks in advance, prior to the commencement of any construction activities on site, so that the ECO can perform a pre-commencement inspection, ensure any pre-construction conditions of the environmental authorization are completed, and plan for environmental awareness training of construction workers (see the Site Specific EMPr for the Environmental Awareness Plan and Appendix D of the site specific EMPr for Environmental Awareness Training Booklet). 	Hercules Solar PV (Pty) Ltd.	Once-off	During pre-construction phase	
Performance Indicator	<ul style="list-style-type: none"> A qualified ECO and Environmental Auditor is appointed prior to the commencement of any construction activities (including pre-construction set-up activities) on site. Ensure all required licences, permits, authorisations and permissions have been obtained prior to the commencement of the proposed development's construction activities. 			

Impact Management Objective: To compile a detailed design and site layout plan that takes cognisance of the sensitivity of the receiving environment.				
Potential impact to avoid	Substantial deviation from the conceptual layout plan may result in: <ul style="list-style-type: none"> • Non-compliance with the Environmental Authorisation during construction. • Triggering of additional listed activities not authorised in the Environmental Authorisation. • An increase in the severity of the impacts identified and those which will be assessed as part of the EIA Process or may result in new impacts not previously assessed and not provided for in the EMPr, resulting in environmental degradation. 			
Impact Management Outcome		Development is compliant with recommendations of the EMPr.		
IMPACT MANAGEMENT ACTIONS				
Mitigation measure	Responsible party	Frequency	Time period	
<p>General:</p> <ul style="list-style-type: none"> • The final detailed design & layout must adhere to the conceptual layout to be assessed during the EIA process. • The final detailed design & layout must adhere to any conditions of the Environmental Authorisation (EA) and any additional licences or permits obtained. • If the final detailed design differs significantly from that assessed during the EIA process, the revised layout must be assessed by an ECO and highlighted to the Environmental Auditor, who should liaise with the Competent Authority (CA) regarding an amendment, prior to proceeding. • The EMPr must be submitted to SAHRA for comment. <p>Monitoring Programmes</p> <p>The following monitoring programmes and management plans/method statement must be compiled prior to the commencement of the construction phase of the proposed development:</p> <ul style="list-style-type: none"> • Habitat Rehabilitation and Monitoring Programme (Guidelines have been included as Appendix J of the Site Specific EMPr) - <u>Compile and implement a rehabilitation plan from the onset of the Project. 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 others in need of stabilisation and vegetation cover;</u> • AIP Eradication and monitoring programme (Guidelines have been included as Appendix H of the site specific EMPr); <ul style="list-style-type: none"> ◦ <u>Promptly remove / control all alien and invasive plant species that may emerge during construction (i.e. weedy annuals and other alien forbs).</u> • Fire management plan - <u>Consult a fire expert and compile and implement a fire management plan to minimise the risk of veld fires around the Project site;</u> • Hydrocarbon spill management plan/method statement; <ul style="list-style-type: none"> ◦ <u>Have action plans on site, and training for contractors and employees in the event of spills, leaks and other impacts to the aquatic systems.</u> 	Hercules Solar PV1 (Pty) Ltd.	Once-Off/Continuously	During Pre-construction phase	
		Archaeological Specialist		Once-Off
		Hercules Solar PV1 / Contractor		Once-off

<p>Design Considerations:</p> <ul style="list-style-type: none"> • All fuel loading and dispensing areas must be located on an impermeable hard surfaced area that must be sloped towards a catchment drain that drains into an oil/water separator to contain any fugitive spillages that may occur during loading or off-loading of fuel products. • Bund wall construction must be either reinforced concrete or reinforced masonry and must withstand catastrophic failure of any of the tanks contained within the bund wall. • Careful treatment of site boundaries and interfaces with adjacent farms to maintain visual continuity. Use of visually transparent fencing, such as welded mesh Betafence, is recommended, with dark grey or black fencing preferred over green. Solid masonry boundary walls and galvanized steel palisades should be avoided, except at gateway thresholds. • Locate new buildings within already disturbed areas and avoid placing them in pristine zones to prevent unnecessary disruption. Ensure sufficient distance from adjacent farmsteads to maintain their buffer zones and avoid overwhelming the simplicity of these areas. • Minimize lighting to prevent light pollution, ensuring that light sources are shielded to reduce spillage. Lighting along site boundaries should be limited to entrance gateways only. Avoid neon or unshielded security lights and integrate signage carefully to prevent visual clutter. • Internal roadways and service yards should reflect a green infrastructure approach, utilizing earth-swales for storm-water runoff instead of concrete channels. Implement 'soft' engineering for storm-water management, ensuring environmentally sensitive drainage to mitigate visual and environmental impacts. • Maintain distant views toward the mountains and open spaces, avoiding rectilinear geometries in planting. Informally group trees and shrubs in a manner consistent with local patterns to reduce the visual impact of new developments and reinforce the rural quality of the landscape. • Ensure that building forms reflect the simplicity of rural structures such as barns and sheds, using muted colours and textured surfaces to visually absorb them into the environment. Roadways should be kept to an appropriate scale, with tree planting incorporated to soften visual impacts. • Use the development as an opportunity to rehabilitate disturbed or damaged areas, restoring functional components of the agricultural environment and supporting biodiversity corridors. Indigenous vegetation should be integrated into riparian and wetland systems to enhance biodiversity, as recommended in the aquatic biodiversity impact assessment. 			
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<ul style="list-style-type: none"> • Consider 'dissolving' buildings into the landscape through subtle transitions from the building platform to the surrounding environment. Use screen planting and shade trees to soften the interface between built structures and natural surroundings. • Integrate indigenous vegetation as biodiversity corridors within riparian and wetland systems to compensate for any ecological disturbances. Reinforce natural and traditional planting patterns with suitable species to ensure congruence with the broader cultural landscape. • <u>Ensure that conservancy tanks are regularly maintained and emptied by a licensed service provider. This will mitigate any risks of overflow or leakage that could affect local water quality. The applicant must submit the engineering design and an advice will be provided by the Departmental engineer.</u> <p><u>Unplanned/Planned Shutdown:</u></p> <p>Should site need to be closed, ensure the following is undertaken:</p> <ul style="list-style-type: none"> • All waste is removed from site. • All stockpiled soils, etc. is removed from site or is banded efficiently and covered with tarp, to minimize dispersion. • Ensure all excavations are backfilled, and recommended landscaping/stabilisation is commenced at the very least. • Ensure heavy machinery is stored safely. • Contact the ECO to undertake an inspection and advise on any appropriate measures that need to be undertaken. • It is important to note that the Environmental Authorization (once obtained), all licences, and the EMPr (once approved) are considered legal and binding documents, therefore regardless of reason for shutdown compliance with these conditions must be met, or the Competent Authority must be informed of the reason and estimated duration of shutdown. 			
Performance Indicator	Detailed designs and site layout plans are approved and adheres to the conditions of the EA and EMPr, prior to the commencement of construction.		

<u>Impact Management Objective: Legislative compliance</u>	
Potential impact to avoid	Commencement of activities without all relevant permits/permissions/licences/approvals including registered servitudes, permits to remove specific vegetation, etc. as well as commencing without implementation of specialist recommendations, including search and rescue, and compliance with EMPr pre-construction activities, can result in penalties, time delays and excessive costs. All stemming from poor planning.

Impact Outcome	Management	All permits, permissions, licences, approvals, and specialist input are acquired, and the proposed development is compliant with the respective conditions.		
IMPACT MANAGEMENT ACTIONS				
Mitigation measure	Responsible party	Frequency	Time period	
<p><u>General</u></p> <ul style="list-style-type: none"> • Ensure programme of works is planned accordingly and includes recommended measures where necessary, such as implementing search and rescue activities. • Ensure financial allowances are made for the recommended measures, such as search and rescue plans, etc. • Ensure all relevant permits/licenses/approvals are in place and are valid prior to commencing with works. These include: <ul style="list-style-type: none"> ○ Environmental Authorisation ○ A permit obtained in terms of the Nature Conservation Ordinance for the search and rescue (removal) of the protected plant species found on site. <u>Obtain relocation or destruction permits before any protected trees are destroyed, if destruction cannot be avoided</u> ○ <u>Permit must be obtained from relevant National or Provincial Authorities prior to removal or damage of any protected plant species.</u> ○ A Water Use Authorisation in terms of the National Water Act of 1998 (Act No. 36 of 1998). ○ Approvals from the relevant departments within the Emthanjeni Local Municipality in terms of the applicable municipal by-laws: <ul style="list-style-type: none"> ▪ By-law on Municipal Land Use Planning: To regulate and control Municipal Land Use Planning; ▪ Integrated Zoning Scheme By-law: To regulate and control Municipal Zoning; ▪ Municipal By-law on Water services. • Ensure that the Contractor has accepted the approved EMP and Environmental Authorization (and any other relevant permits/licenses, etc), as a part of their Tender Document, to ensure that they are fully aware of their responsibilities in terms of the implementation of these documents. • Ensure that the Contractor provides method statements for activities intended to be undertaken, and these are checked and approved by the ECO as well as the Engineer. • Inform ECO of planned works ahead, so as to ensure inductions are undertaken timeously. • Involve ECO in selection of site camp location. 	Hercules Solar PV1	Once-Off	During pre-construction phase	

Performance Indicator	The project does not incur delays, excessive costs and penalties due to unobtained permits and non-compliance with required permits, permissions, licences, and approvals.
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8.2. Environmental Impact Management: Pre-Construction

Impact Management Objective: Implement search and rescue plan and identify & demarcate No-Go and working areas.			
Potential impact to avoid	<ul style="list-style-type: none"> • Insensitive location of working areas and site facilities may result in environmental impacts during the construction phase. • Failure to accurately demarcate working areas may result in works exceeding the approved assessed footprint, resulting in non-compliance and potential penalties and delays 		
Impact Management Outcome	Future construction activities will be restricted to within the designated areas & all areas indicated as no-go areas, will be protected from disturbance, i.e., beyond the development footprint or areas not assessed in terms of search and rescue, as of yet.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<p>General</p> <ul style="list-style-type: none"> • Inform ECO of planned works ahead, so as to ensure inductions are undertaken timeously. • Involve ECO in selection of site camp location. • Ensure all labour and sub-contractors undergo environmental inductions. • Ensure flora permits are in place timeously – allow at least 1 or 2 months before commencement. • Perform search and rescue of the protected species on site prior to any establishment of any site equipment/construction materials, including erecting the fence lines. • The Environmental Health Practitioner responsible for the area in which the construction will take place will be responsible for monitoring effect on human health. This individual must be notified of the commencement of the construction and operational phases, respectively. • Environmental Awareness and Training (EAT) – Ensure all labour are informed and plant operators are aware of risks, issues, dos and don'ts and no-go areas. • Ensure all method statements have been provided to the ECO. <p>Working Areas</p> <ul style="list-style-type: none"> • Ensure the relevant ECO and ESO are both present and consulted for demarcation. • Demarcate/fence off the working area with fencing to: <ul style="list-style-type: none"> ○ contain potential overflow into the surrounding sites; ○ obstruct visual impacts; ○ Prevent harm to fauna that may fall into open excavations, therefore ensure all excavations are covered or closed overnight. • The temporary fencing (if used) must be retained and maintained on a daily basis for the duration of the construction period. • Contain disturbance to the demarcated construction area. • <u>Areas outside the demarcated construction footprint must be considered no-go areas. Prior to vegetation clearing activities, the area to be cleared should be walked on foot by 1-2</u> 	Contractor (General) and ECO	Once-off	Pre-construction phase (prior to arrival of construction equipment, machinery, or workers on site)
		Continuous/throughout construction period	
		Once-off	

<p><u>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:</u></p> <ul style="list-style-type: none"> • <u>Minimise the number (and size) of laydown, storage and staff facilities for the duration of the Project;</u> <p>Landowners:</p> <ul style="list-style-type: none"> • Notify all surrounding landowners of the construction programme to ensure that they are aware that construction activity may bring about delays/obstructions as well as ensuring that they are aware of any risks. • Ensure clear signage is erected on the access road. 		<p>Continuous</p>	
<p>Performance Indicator</p>	<p>No-go areas, working areas and areas for site camp facilities have been identified and appropriately demarcated to the satisfaction of the ECO, before construction activities commences on site.</p>		

Impact Management Objective: To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.			
Potential impact to avoid	<ul style="list-style-type: none"> • Failure to properly demarcate and set up site facilities may result in disorganised construction activities and unnecessary disturbance to the site. • Failure to provide the necessary site facilities and/or failure to equip these facilities with the necessary equipment/materials may impede good environmental management & compromise ability to respond to emergencies. 		
Impact Management Outcome	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<p>General</p> <ul style="list-style-type: none"> • The site camp and associated site facilities must be set-up and managed in accordance with the general environmental management measures specified in Section 6 of this EMPr. • The site camp must be strategically set up in a manner that will promote good environmental management during construction/ demolition, and to respond to potential emergencies (including fires, spillage of hazardous substances etc.) that may arise. • The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • Frequent stormwater outlets must be maintained (if necessary), to prevent erosion at discharge points. <p>Site Camp Establishment</p> <p>If in an area that contains vegetation, utilize disturbed areas only, and:</p> <ul style="list-style-type: none"> • Ensure site selected is inspected and approved by ECO. • Utilize disturbed or transformed areas for site camp establishment. • Site camp facilities must be the minimum area reasonably required to accommodate the site camp facilities and must not be allowed to impact areas not within the designated footprint. • Ensure the site camp is positioned on a levelled area and is easily accessible. • Ensure site camp is fenced off with appropriate fencing and shade cloth, to block out activities within. • Ensure there is 24hr security. • Designate specific areas for specific purpose, including storage areas, machinery storage areas, parking areas, waste disposal areas, etc. • Ensure an Environmental File is established on site that remains on site for the duration of construction, for auditing purposes. This file should contain as a minimum: <ul style="list-style-type: none"> ○ Copies of audit reports. ○ Copies of disposal/cleaning slips related to waste disposal at a registered waste disposal site and from company appointed to clean toilets. ○ Copies of purchase orders for rehabilitation material etc. ○ Copies of all approvals, including: Environmental Authorization, EMPr, and any other license/permit/approval. ○ Incident register. 	Contractor / Hercules Solar PV1 (Pty) Ltd.	<p>All Once-off</p> <hr/> <p>Continuous/throughout life of construction</p>	Pre-construction phase (prior to start of construction activities)

<ul style="list-style-type: none"> o Complaints register. o Copies of induction registers. • Infographics must be available on site in public areas, including information on safety measures, potential harmful fauna (ie. snakes common to the areas, and emergency contact information, including, but not limited to: Snake catchers, Ambulance; Fire Department; the closest hospital, veterinarian (ie: for anti-venom, etc)). • Must contain a spill-kit. • Ensure proper toilet facilities for employees on site - Potable chemical toilets: <ul style="list-style-type: none"> o Plan positioning of Potable Toilets for labour working along the route. o Consider designating a vehicle for the transportation of labourers to toilets. The vehicle must be equipped with a spill-kit. o Ensure chemical toilets are positioned on levelled areas and are protected from wind and rain that could result in them blowing over and spilling waste contents. o Ensure toilets are rented from a registered company, with whom arrangements should be made for cleaning of these toilets on a weekly basis. o Disposal slips/cleaning slips from this company must be obtained following every cleaning and must be filed in the Environmental File. o Ensure an adequate quantity of toilets are provided at each working area. • Hazardous substances including oil/fuel etc. should be: <ul style="list-style-type: none"> o Stored in bunded areas, on hardened/impermeable surfaces, where the barrels/drums/containers are protected from the natural elements. o Hazardous substances storage area must be treated as a no-go zone to unauthorised personnel. o Appropriate signage indicating what kind hazardous/flammable materials are stored. o Material Safety Data Sheet (MSDSs) must be available. o A fire extinguisher and contact details for the fire department and other emergency numbers must be positioned in close proximity. o A spill kit must be positioned inside the hazardous substances storage area. o May only be decanted/filled on the aforementioned surface or with the use of drip trays. o If any spills do occur, the solid must be excavated and disposed of as hazardous waste at an appropriately registered facility. <p><u>Waste Management:</u></p> <ul style="list-style-type: none"> • Designate areas for temporary waste storage, this area should be: <ul style="list-style-type: none"> o Protected from wind/rain displacement. o Should be on a levelled surface. • An appropriate number of skips/bins must be made available on site, to accommodate for waste separation of the various types of waste generated. • Waste bins/skips must be weather and animal proof. Ensure weighted covers are positioned on skips/bins, to ensure that animals cannot get into the bins as well as to avoid waste dispersion. 			
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<ul style="list-style-type: none"> • Label bins appropriately. • No waste/excavated soil/ etc. intended to be removed from site may remain on site for more than 90-days. • Ensure that disposal is undertaken when waste has reached 75% capacity of the bin/skip. • The waste must be disposed of at a registered waste disposal facility. The disposal receipts from the facility must be kept in the Environmental File. • Ensure waste receptacles are available where works are being undertaken, this can take the form of black bin bags, etc. however it must: <ul style="list-style-type: none"> • Be sufficient to hold the waste without tearing/spilling. • It must be removed from site on a daily basis and re-established at the start of every day, when works occurs in that area. • Request that the foreman responsible for the labour team in a specific area, is responsible for ensuring that this waste receptacle is utilized, removed and established daily. • <u>Collect and dump waste only in designated areas;</u> • <u>Engage proactively with the Emthanjeni Local Municipality regarding waste management and sanitation services. Establishing service level agreements will help ensure that your operations are aligned with local regulations and standards, protecting community water resources.</u> 			
Performance Indicator	Appropriate, well organised, and properly equipped site facilities are available on site prior to commencement of construction activities. The location and set up of the facilities don't impact on the natural resources.		

Impact Management Objective: To set up and equip the site camp and associated site facilities in a manner that will promote good environmental management.			
Potential impact to avoid	<ul style="list-style-type: none"> • Failure to properly demarcate and set up site facilities may result in disorganised construction activities and unnecessary disturbance to the site. • Failure to provide the necessary site facilities and/or failure to equip these facilities with the necessary equipment/materials may impede good environmental management & compromise ability to respond to emergencies. 		
Impact Management Outcome	Site camp facilities do not impact significantly on environment. The equipment required to implement the provisions of the EMPr are provided on site.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<p>General</p> <ul style="list-style-type: none"> • The site camp and associated site facilities must be set-up and managed in accordance with the general environmental management measures specified in Section 6 of this EMPr. • The site camp must be strategically set up in a manner that will promote good environmental management during construction/ demolition, and to respond to potential emergencies (including fires, spillage of hazardous substances etc.) that may arise. • The site camp, storage facilities, stockpiles, waste bins, and any other temporary structures on site must be located in such a way that they will present as little visual impact to surrounding residents and road users as possible. • Frequent stormwater outlets must be maintained (if necessary), to prevent erosion at discharge points. <p>Site Camp Establishment</p> <p>If in an area that contains vegetation, utilize disturbed areas only, and:</p> <ul style="list-style-type: none"> • Ensure site selected is inspected and approved by ECO. • Utilize disturbed or transformed areas for site camp establishment. • Site camp facilities must be the minimum area reasonably required to accommodate the site camp facilities and must not be allowed to impact areas not within the designated footprint. • Ensure the site camp is positioned on a levelled area and is easily accessible. • Ensure site camp is fenced off with appropriate fencing and shade cloth, to block out activities within. • Ensure there is 24hr security. • Designate specific areas for specific purpose, including storage areas, machinery storage areas, parking areas, waste disposal areas, etc. • Ensure an Environmental File is established on site that remains on site for the duration of construction, for auditing purposes. This file should contain as a minimum: <ul style="list-style-type: none"> ○ Copies of audit reports. 	Contractor / Hercules Solar PV1 (Pty) Ltd.	<p>All Once-off</p> <hr/> <p>Continuous/throughout life of construction</p>	Pre-construction phase (prior to start of construction activities)

<ul style="list-style-type: none"> ○ Copies of disposal/cleaning slips related to waste disposal at a registered waste disposal site and from company appointed to clean toilets. ○ Copies of purchase orders for rehabilitation material etc. ○ Copies of all approvals, including: Environmental Authorization, EMPr, and any other license/permit/approval. ○ Incident register. ○ Complaints register. ○ Copies of induction registers. ● Infographics must be available on site in public areas, including information on safety measures, potential harmful fauna (ie. snakes common to the areas, and emergency contact information, including, but not limited to: Snake catchers, Ambulance; Fire Department; the closest hospital, veterinarian (ie: for anti-venom, etc). ● Must contain a spill-kit. ● Ensure proper toilet facilities for employees on site - Potable chemical toilets: <ul style="list-style-type: none"> ○ Plan positioning of Potable Toilets for labour working along the route. ○ Consider designating a vehicle for the transportation of labourers to toilets. The vehicle must be equipped with a spill-kit. ○ Ensure chemical toilets are positioned on levelled areas and are protected from wind and rain that could result in them blowing over and spilling waste contents. ○ Ensure toilets are rented from a registered company, with whom arrangements should be made for cleaning of these toilets on a weekly basis. ○ Disposal slips/cleaning slips from this company must be obtained following every cleaning and must be filed in the Environmental File. ○ Ensure an adequate quantity of toilets are provided at each working area. ● Hazardous substances including oil/fuel etc. should be: <ul style="list-style-type: none"> ○ Stored in bunded areas, on hardened/impermeable surfaces, where the barrels/drums/containers are protected from the natural elements. ○ Hazardous substances storage area must be treated as a no-go zone to unauthorised personnel. ○ Appropriate signage indicating what kind hazardous/flammable materials are stored. ○ Material Safety Data Sheet (MSDSs) must be available. ○ A fire extinguisher and contact details for the fire department and other emergency numbers must be positioned in close proximity. ○ A spill kit must be positioned inside the hazardous substances storage area. ○ May only be decanted/filled on the aforementioned surface or with the use of drip trays. ○ If any spills do occur, the solid must be excavated and disposed of as hazardous waste at an appropriately registered facility. 			
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<p>Waste Management:</p> <ul style="list-style-type: none"> • Designate areas for temporary waste storage, this area should be: <ul style="list-style-type: none"> ○ Protected from wind/rain displacement. ○ Should be on a levelled surface. • An appropriate number of skips/bins must be made available on site, to accommodate for waste separation of the various types of waste generated. • Waste bins/skips must be weather and animal proof. Ensure weighted covers are positioned on skips/bins, to ensure that animals cannot get into the bins as well as to avoid waste dispersion. • Label bins appropriately. • No waste/excavated soil/ etc. intended to be removed from site may remain on site for more than 90-days. • Ensure that disposal is undertaken when waste has reached 75% capacity of the bin/skip. • The waste must be disposed of at a registered waste disposal facility. The disposal receipts from the facility must be kept in the Environmental File. • Ensure waste receptacles are available where works are being undertaken, this can take the form of black bin bags, etc. however it must: <ul style="list-style-type: none"> • Be sufficient to hold the waste without tearing/spilling. • It must be removed from site on a daily basis and re-established at the start of every day, when works occurs in that area. • Request that the foreman responsible for the labour team in a specific area, is responsible for ensuring that this waste receptacle is utilized, removed and established daily. 			
Performance Indicator	Appropriate, well organised, and properly equipped site facilities are available on site prior to commencement of construction activities. The location and set up of the facilities don't impact on the natural resources.		

Impact Management Objective: Environmental Control Officer to conduct an inspection prior to the commencement of construction activities on site.			
Potential impact to avoid	<ul style="list-style-type: none"> • Failure to appoint ECO or to notify ECO of commencement prior to commencement may result in non-compliance with the EA. • If a pre-commencement ECO inspection is not performed, the Construction Contractor may be held liable for environmental degradation that took place prior to the Contractor commencing work on site. 		
Impact Management Outcome	<ul style="list-style-type: none"> • Good environmental management is promoted and enforced by the ECO during the full pre-construction and construction phases. • Site facilities are appropriately located on site. • Construction workers receive environmental awareness training before commencing work on site. 		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<ul style="list-style-type: none"> • The appointed ECO must be advised of the construction start date, before any activities commence on site so that the ECO can perform a pre-commencement inspection and plan for environmental awareness training of construction workers. 	Contractor	Once-Off	Start of construction phase

<ul style="list-style-type: none"> The ECO must ensure all relevant items are in place in terms of the section above in this EMPr where necessary, and all relevant pre-construction requirements have been complied with in terms of the EA. Ensure the project timeframe has taken the relevant requirements of the EA and EMPr, into account. The ECO is to take photographs of the site prior to the establishment of ALL facilities (including the site camp), for record purposes. The Contractor is to ensure that the Environmental File is in place on site, with all the relevant content, and emergency numbers for the relevant authorities are available. The Contractor must appoint an Environmental Site Officer (ESO) to monitor compliance on a daily basis. <u>Provide Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. The training must include:</u> <ul style="list-style-type: none"> <u>Sensitive environmental receptors within the PAOI;</u> <u>Management requirements in the Environmental Authorisation and the EMPr;</u> <u>How to deal with any fauna species encountered during the construction process;</u> <u>Educate staff and relevant contractors on the location and importance of the identified watercourses through toolbox talks and by including them in site inductions as well as the overall master plan.</u> 	ECO		
	Contractor		
Performance Indicator	A pre-commencement site inspection is conducted by the appointed ECO before construction activities commence on site.		

8.3. Environmental Impact Management: Construction

<i>Impact Management Objective: To prevent the unnecessary loss of terrestrial biodiversity and element encompassing the biological components</i>			
Potential impact(s) to avoid	<ul style="list-style-type: none"> Impacts on terrestrial biodiversity: <ul style="list-style-type: none"> Fragmentation and degradation of ecosystems Displacement and direct mortalities of faunal community due to disturbance Spread of alien and/or invasive species and reduction of habitat integrity Impacts on the Avifaunal Biodiversity <ul style="list-style-type: none"> Displacement and disturbance of avifaunal species Direct Mortalities during construction phase Impacts on the Bat Species Biodiversity: <ul style="list-style-type: none"> Mortality due during construction phase Disturbance/displacement impacts associated with the construction phase 		
Impact Management Outcome	Minimal loss of biological resources within the proposed development footprint		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period

<p>General:</p> <ul style="list-style-type: none"> • Construction shall only take place within the approved demarcated site boundaries. • Ensure programme of works includes site stabilisation after each section has been backfilled, to avoid bare surfaces remaining exposed for extended periods of time. • Ensure ALL works on site, remain within the demarcated working area (this includes stockpiling, if necessary, on site). • The Contractor must ensure that an emergency preparedness plan is in place in order to fight accidental fires or veld fires, should they occur. The adjacent landowners/users/managers must also be informed or otherwise involved. • The use of branches of trees and shrubs for fire-making must be strictly prohibited. • The Contractor must take all reasonable and active steps to avoid increasing the risk of fire through their activities on-site. No fires may be lit except at places approved by the ECO. • The Contractor must ensure that the basic fire-fighting equipment is to the satisfaction of the Local Emergency Services. • The Contractor must supply all living quarters, site offices, kitchen areas, workshop areas, materials, stores and any other relevant areas with tested and approved fire-fighting equipment. • Fires and "hot work" must be restricted to demarcated areas. • The Contractor must take precautions when working with welding or grinding equipment near potential sources of combustion. Such precautions include having a suitable, tested and approved fire extinguisher immediately at hand and the use of welding curtains. <p>Clearance of Vegetation</p> <ul style="list-style-type: none"> • Blanket clearing of vegetation must be limited to the development footprint, and the area to be cleared must be demarcated before any clearing commences. • No clearing outside of the approved footprint is to take place. • Topsoil must be striped and stockpiled separately during site preparation and replaced on completion where revegetation will take place. • Ensure all permits relevant to any activity that may require the trimming/removal/disturbance of a specific flora species, is obtained prior to the commencement of clearance activities. • Ensure mitigation measures as per specialist recommendation are implemented in full. • Any site camps and laydown areas requiring clearing must be located within the main site boundary. • <u>Use hand cutting for vegetation clearing and avoid heavy machinery, far as possible;</u> • <u>Store topsoil stockpiles on flat ground with minimal run-off and use bunds and/or other stabilisation methods (e.g., netting) if required to avoid erosion;</u> 	<p>Contractor / Hercules Solar PV1</p>	<p>Continuously/throughout construction phase</p>	<p>Construction phase</p>
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Alien invasive management:

- Ensure that alien invasive species are identified, and measures are taken to consistently remove alien invasive species from within the development footprint – implement weed management plan/alien invasive management plan as per EMPr.
- Stockpiled alien invasive species cleared from site, must be contained and removed from site as soon as possible, so as to not allow dispersal.
- Alien species must be removed from the site as per the National Environmental Management: Biodiversity Act (No. 10 of 2004) requirements.
- A suitable weed and alien invasive species management strategy must be implemented in the construction phase and carried through the operational phase. Please refer to Appendix H of the site specific EMPr.
- Weeds and alien species must be cleared by hand before the post-construction/operational phase of the areas commences. Removal of alien plants are to be done according to the Working for Water Guidelines.
- The Contractor is responsible for the removal of alien species within all areas disturbed during construction activities. Disturbed areas include (but are not limited to) access roads, construction camps, site areas and temporary storage areas.
- In consultation with relevant authorities, the Engineer may order the removal of alien plants (when necessary). Areas within the confines of the site are to be included.
- All alien plant material (including brushwood and seeds) must be removed from site and disposed of at a registered waste disposal site. Should brushwood be utilised for soil stabilization or mulching, it must be seed free.
- After clearing is completed, an appropriate cover crop may be required, must natural re-establishment of grasses not take place in a timely manner.

General Management of faunal biodiversity

- Ensure contact numbers for emergency assistance is available.
- Reptiles such as lizards are less mobile compared to mammals, and some mortalities could arise.
- A reptile handler must be on call for such circumstances.
- Respective permits to be obtained beforehand (if applicable).
- No animals are to be harmed or killed during the course of operations.
- Workers are NOT allowed to collect any flora or snare any faunal species. All flora and fauna remain the property of the landowner and must not be disturbed, upset or used without their expressed consent.
- No domestic animals are permitted within the working areas of the sites.
- Trees and shrubs that are directly affected by the operations may be felled or cleared but only by the expressed written permission of the ECO.

<ul style="list-style-type: none"> • A sweep of the proposed development footprint must be done prior to the site establishment in order to ensure that no animals are hurt during site clearance activities. • Should animals wander into the development footprint, these animals are not to be hunted or killed. • In the unlikely event of animals accessing the site, the animals must be captured and released outside of the working areas. • The site is to be always kept clean and tidy so as to not attract the animals to the site. • Notify surrounding farmers of construction works. • Labourers must be made aware of what game may be present within the surrounding farms, so as to be able to recognize and report sightings within the construction area. • Ensure neighbouring property owners contact details (who own game), are available for the site agent, in case of an emergency. • Undertake regular checks of demarcations and fence lines to ensure no encroachment occurs. <p>Specialist mitigation measures:</p> <ul style="list-style-type: none"> • <u>Terrestrial Biodiversity, plant and animal species</u> <ul style="list-style-type: none"> ◦ All 'Very High' SEI habitats and Water resource and associated buffer zones are to be avoided. Areas rated as High sensitivity should be declared as 'no-go' areas during the life of the project, and all efforts must be made to prevent access to these areas from construction workers and machinery. Only mitigated (avoidance) development in High sensitivity areas is permissible. <ul style="list-style-type: none"> ▪ Solar panels must be mounted on pile driven or screw foundations, such as post support spikes, rather than heavy foundations, such as trench-fill or mass concrete foundations, to reduce the negative effects on natural soil functioning, such as its filtering and buffering characteristics, while maintaining habitats for both fossorial and epigeic biodiversity (Bennun et al, 2021). If concrete foundations are used that would increase the impact of the project as there would be direct impacts to soil permeability and characteristics, thereby influencing in-habitant fauna. In addition, stormwater runoff and runoff from cleaning the panels would be increased, increasing erosion in the surrounding areas. ▪ Indigenous vegetation to be maintained under the solar panels to ensure biodiversity is maintained and to prevent soil erosion (Beatty et al, 2017; Sinha et al, 2018). 		<hr/> <p>Once-off</p> <p>Continuously/as construction concludes in any one area</p> <hr/> <p>Continuous</p>	
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<ul style="list-style-type: none"> <ul style="list-style-type: none"> ▪ Demarcate work areas during the construction phase to avoid affecting outside areas. Use physical barriers e.g., safety tape, not painted lines, and use signage. ○ Do not clear areas of indigenous vegetation outside of the direct development footprint within the PAOI. ○ Vegetation clearing to commence only after the necessary permits have been obtained. ○ Consult a fire expert and compile and implement a fire management plan to minimise the risk of veld fires around the Project site. ○ Compile and implement a rehabilitation plan from the onset of the Project; ○ Rehabilitate areas as soon as they are no longer impacted by construction (Please refer to Appendix J of the site specific EMPr). ○ The rehabilitated areas must be revegetated with indigenous vegetation. ○ 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 others in need of stabilisation and vegetation cover. ○ Dust-reducing mitigation measures must be put in place and must be strictly adhered to, for all roads and bare (unvegetated) areas. ○ Reduce the dust generated by operational vehicles and earth moving machinery, through wetting the soil surface (with "dirty water") and putting up signs to enforce speed limits to enforce reduced speeds. No non-environmentally friendly suppressants may be used as this could result in pollution of water sources. ○ Environmental Site Officer (ESO) to provide supervision and oversight of vegetation clearing activities. ○ 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 be also prescribing a monitoring plan and be updated as/when new data is collated (Please refer to Appendix H of the site specific EMPr). ○ Implementation of a waste management plan, this plan must be also prescribe a monitoring plan and be updated as/when new data is collated. Waste management must be a priority and all waste must be collected, stored and disposed of adequately. It is recommended that all waste be removed from site on a weekly basis (as a minimum) to prevent rodents and pests entering the site. ○ Refuse bins will be emptied and secured. 	<hr/> <p>Botanical Specialist</p> <hr/> <p>ECO</p> <hr/> <p>Contractor / Hercules Solar PV1</p>		
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<ul style="list-style-type: none"> o Temporary storage of domestic waste shall be in covered waste skips. o Maximum domestic waste storage period will be 7 days. o A pest control plan must be put in place and implemented; it is imperative that poisons not be used. o Demarcate work areas during the construction phase to avoid affecting outside areas. Use physical barriers e.g., safety tape, not painted lines, and use signage. o Prior to vegetation clearing activities, 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. o Any fauna threatened by the construction activities should be removed safely by an appropriately qualified environmental control officer or removal specialist. o All construction vehicles should adhere to a speed limit of maximum 40 km/h to avoid collisions. Appropriate speed control measures and signs must be erected. o A movement corridor within the PV area must be incorporated into the design in order to allow fauna to move to and from the rocky habitats and Degraded shrubveld habitats. o Minimise vegetation clearing to the minimum required. Areas should be cleared and disturbed on a needs basis only, as opposed to clearing and disturbing a number of sites simultaneously. o Provide All personnel and contractors to undergo Environmental Awareness Training to all personnel and contractors. A signed register of attendance must be kept for proof. o The timing between clearing of an area and subsequent development must be minimized to avoid fauna from re-entering the site to be disturbed. o Any holes/deep excavations must 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. o 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. 	<hr/> <p>Independent Avifaunal specialist</p> <hr/> <p>Contractor</p> <hr/> <p>Contractor / Hercules Solar PV1</p> <hr/> <p>Hercules Solar PV1 / Independent Avifaunal Specialist</p>	<hr/> <p>Prior to construction in any given area/continuous</p> <hr/> <p>Continuously / throughout construction</p> <hr/> <p>Once-Off/with continuous implementation.</p>	
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<ul style="list-style-type: none"> ○ Considering that many of the mammal fauna recorded within the project area are nocturnal, no construction activity is to occur at night, unless authorised. ○ 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. ○ Use existing access routes and paths wherever possible; ○ Existing roads/servitudes should be considered first option over the construction of new roads/servitudes and must only be made where necessary; ○ Avoid the destruction and development of 'Very High' SEI habitats and Water resource and associated buffer zones are to be avoided; ○ Any holes/deep excavations must 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; ○ 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; ○ Use preferably prefabricated buildings or those constructed of re-usable/recyclable materials. ○ Ensure that staff do not bring onto or remove from the site any plants, to prevent the spread of exotic or invasive species or the illegal collection of plants. It should be made an offence for any staff to /take bring any plant species into/out of any portion of the PAOI. No plant species whether indigenous or exotic should be brought into/taken from the PAOI, to prevent the spread of exotic or invasive species or the illegal collection of plants. ○ Compile and implement a hydrocarbon spill management plan. ○ Limiting the closure and rehabilitation activities to the footprint areas only. Avoid entry/access to previously undisturbed or already rehabilitated areas. ○ The rehabilitated areas must be revegetated with indigenous vegetation. ○ Areas other than the footprint areas and existing surface infrastructure areas, should be declared as 'no-go' areas to vehicles (only). All essential operational staff - machinery must be limited to development area (no need to go outside the authorised area). 			
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<ul style="list-style-type: none"> o Prohibit the intentional killing, trapping or poisoning of any animals on site, including snakes, lizards, birds or other animals; o No non-environmentally friendly dust suppressants may be used as this could result in pollution of water sources. • Avifaunal Species <ul style="list-style-type: none"> o The duration of the construction must be kept to a minimum to avoid disturbing avifauna. o Outside lighting must be designed and limited to minimize impacts on fauna. All outside lighting should be directed away from highly sensitive areas. Fluorescent and mercury vapor lighting should be avoided, and sodium vapor (red/green) lights should be used wherever possible. o All project activities must be undertaken with appropriate noise mitigation measures to avoid disturbance to avifauna population in the region o All areas to be developed must be walked through prior to any activity to ensure no SCC nests or avifauna species are found in the area. Should any Species of Conservation Concern be found and not move out of the area, or their nest be found in the area a suitably qualified specialist must be consulted to advise on the correct actions to be taken. o Infrastructure must be consolidated where possible in order to minimise the amount of ground and air space used. o All the parts of the infrastructure must be nest proofed and anti-perch devices placed on areas that can lead to electrocution. o As far as possible power cables within the PAOI should be thoroughly insulated and preferably buried. o Any exposed parts must be covered (insulated) to reduce electrocution risk. o The BESS must be enclosed in a structure with a non-reflective surface. o All Buffers should be adhere to – unless otherwise authorised. o An ornithological management plan must be put in place for the construction and post construction monitoring. 			
Performance Indicator	The terrestrial environment, plant SCCs and animal SCCs are not significantly impacted as a result of soil erosion.		

<i>Impact Management Objective: Reduce the impacts caused by land disturbance and impacts on surrounding agricultural resources.</i>	
Potential impact(s) to avoid	<ul style="list-style-type: none"> • Marginal loss of agricultural resources as a result of the establishment of the access roads, internal roads and internal electricity reticulation.
Impact Management Outcome	Minimal impacts on the agricultural resources on-site. Limiting the impacts on farmers' income generated through crop yielding.

IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<ul style="list-style-type: none"> A system of storm water management, which will prevent erosion on and downstream of the site, will be an inherent part of the engineering design on site. Any occurrences of erosion must be attended to immediately and the integrity of the erosion control system at that point must be amended to prevent further erosion from occurring there. As part of the system, the integrity of the existing contour bank systems of erosion control on croplands, where they occur on steeper slopes, must be kept intact. Any excavations done during the construction phase, in areas that will be re-vegetated at the end of the construction phase, must separate the upper 20 cm of topsoil from the rest of the excavation spoils and store it in a separate stockpile. When the excavation is back-filled, the topsoil must be back-filled last, so that it is at the surface. Topsoil must only be stripped in areas that are excavated. Across the majority of the site, including construction lay down areas, it will be much more effective for rehabilitation, to retain the topsoil in place. If levelling requires significant cutting, topsoil must be temporarily stockpiled and then re-spread after cutting, so that there is a covering of topsoil over the entire cut surface. 	Contractor / Hercules Solar PV 1	Once-off	Design Phase and Construction phase
	Contractor	Continuous / throughout life of construction phase	Construction
Performance Indicator	Minimal loss of agricultural resources within the boundaries of the proposed development footprint.		

<i>Impact Management Objective: Reduce the impacts on the archaeological, cultural and palaeontological resources.</i>			
Potential impact(s) to avoid	<ul style="list-style-type: none"> Permanent loss of archaeological resources. Impact on the cultural and visual landscapes. Permanent loss of palaeontological resources. 		
Impact Management Outcome	Loss of heritage (archaeological, cultural and palaeontological) resources are limited.		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	FRequ	Time period
<u>General:</u> <ul style="list-style-type: none"> Cuts, fills and landscape scarring in general in general must be minimised. 	Contractor	Continuously / throughout all earth moving activities	Construction phase

<ul style="list-style-type: none"> Fossil extraction to take place prior to the commencement of the construction phase of the proposed development. Fossil extraction is to be undertaken by a suitably qualified palaeontological specialist. A workplan must be submitted to SAHRA and NCHRA prior to the commencement of the construction phase. <p>Specialists recommendations – Archaeological Specialist</p> <ul style="list-style-type: none"> Sites G094 and G095 must be avoided and each buffered by a 20 m construction exclusion zone. If this is not possible, the recording, collection, and/or excavation of sites or material by an archaeologist and under permit from SAHRA will be required prior to the commencement of construction. The cluster of sites at J019-J023 must be buffered by 50 m to ensure that they are not impacted by the development. Grave J061 is excluded from the development footprint by means of a buffer of 20 m. If avoidance is not possible, the grave will need to be exhumed prior to the commencement of construction work. This will require a permit from SAHRA under Section 36 of the NHRA. Should previously unknown human remains be encountered, work in the vicinity of the find must cease, the remains must be left in situ but made secure, and SAHRA must be notified immediately so that mitigatory action can be determined and be implemented. If any archaeological material is uncovered during the course of development, work in the immediate area must be halted and the find reported to the heritage authorities. The find may require inspection by an archaeologist. Such heritage is the property of the state and may require excavation and curation in an approved institution. <p>Specialist recommendations – Palaeontological Specialist</p> <ul style="list-style-type: none"> A Chance Finds Protocol must be implemented during the construction phase of the project (Appendix C). A suitably qualified and experienced palaeontologist must be appointed to monitor any excavations into the Adelaide Subgroup strata and recover any significant fossils encountered. As part of the Phase 2 PIA (construction monitoring), the specialist must detail the specifics of the monitoring activities. Please refer to Appendix C for a guideline towards the minimum requirement for the compilation of a monitoring plan for this project. The palaeontologist must train the ECO and dedicated members of the technical team of the contractor, to recognise "significant" fossils. Fossils recorded during construction must be curated and moved to the institute indicated by SAHRA. 	<p>Contractor / Archaeologist</p> <hr/> <p>Contractor</p> <hr/> <p>Contractor / Palaeontological Specialist Palaeontologist, ECO and ESO</p> <hr/> <p>Palaeontologist</p>	<p>Once-off</p> <hr/> <p>Throughout earthmoving activities</p> <hr/> <p>Throughout earthmoving activities</p> <hr/> <p>Throughout earthmoving activities</p>	<p>Prior to construction / Construction phase</p> <hr/> <p>Throughout construction phase</p> <hr/> <p>all</p> <hr/> <p>all</p>
<p>Performance Indicator</p>	<p>Limited impact on the heritage resources within the study areas.</p>		

<ul style="list-style-type: none"> • Use the drainage area shapefiles to clearly demarcate (on the ground) the edge of the buffer on the watercourse (50 m buffer). Regard these as strict no-go areas and sign post as environmentally sensitive where possible. • All activities (including driving and equipment storage) must remain outside of the watercourse and associated buffer identified on site that will be conserved. • All infrastructure during both construction (e.g. laydown yards) and operation (e.g. offices, control room/s, storage facilities, inverters, and transformers) must remain outside of the watercourse and associated buffer identified on site that will be conserved. • Hold off on the clearing of vegetation as long as possible, ensuring that all environmental and water use authorisations are in place, the site construction materials are in place and the PV infrastructure is sourced and ready for construction prior to clearing. • All disturbed areas such the laydown areas need to be rehabilitated through revegetation. • While clearing keep a nursery of plant sods (prioritise hydrophytes) in an on-site nursery for rehabilitation of disturbed areas. • Where the establishment of an on-site nursery is not feasible, Search and Rescue specialist must identify indigenous nurseries or alternative location where the fulfilment of the nursery functions can be exercised. This identified location (existing nursery or identified site) must provide similar conditions as those observed on site, so as to promote the survival rate of the plant species. • Minimize the disturbance footprint and the unnecessary clearing of vegetation outside of this area. • Ensure soil stockpiles and concrete / building sand are sufficiently safeguarded against rain wash. • Adequate sanitary facilities and ablutions on the servitude must be provided for all personnel throughout the project area. Use of these facilities must be enforced (these facilities must be kept clean so that they are a desired alternative to the surrounding vegetation). 	Contractor	Continuous (whenever works in proximity to watercourses occur)	
Performance Indicator	<p>No incidents recorded for the duration of the construction phase</p> <p>Aquatic Habitats inside of the development footprint have recovered and the impacts on the watercourses are limited.</p>		

<p><i>Impact Management Objective: To prevent the activities on-site from causing unnecessary downstream impacts of poor stormwater management and erosion impacts.</i></p>	
Potential impact(s) to avoid	Erosion and sedimentation due to poor stormwater management on site.

Impact Management Outcome	No erosion occurring on site or as a result of the activities on site. Effective Stormwater Management		
IMPACT MANAGEMENT ACTIONS			
Mitigation measure	Responsible party	Frequency	Time period
<p>Stockpiling:</p> <ul style="list-style-type: none"> • Topsoil shall be removed from all areas where physical disturbance of the surface will occur. • The removed topsoil shall be stored on high ground within the footprint outside the 1:50 flood level within demarcated areas. • Topsoil shall be kept separate from overburden and shall not be used for building or maintenance of roads. • The stockpiled topsoil shall be protected from being blown away or being eroded. The use of a suitable grass seed/runner mix will facilitate soil protection and minimise weeds/weed growth. • Subsoil and topsoils must be excavated and stored separately. • The topsoil must be stored separately and must not be contaminated. • The soil layers must be replaced in the same order and the topsoil returned last. • Topsoil stockpiles must be less than 1.5 m in height and have adequate signage to illustrate which are topsoil and subsoil for landscaping purposes. • Clear litter/waste/weeds from topsoil prior to backfilling. • Do not allow stockpiled materials to exceed 2 m in height, and do not position stockpiles along slopes or outside of the project footprint/site camp. • Ensure stockpiles are bunded, and if necessary, cover with shade cloth to avoid loss of material. • When backfilling, ensure subsoils are backfilled first, and top-soil thereafter. • Remove alien invasives/weeds established on stockpiled soils prior to re-instatement. • Stockpiles are to be managed for weed and alien invasive species infestation at all times. • Sufficient topsoil must be stored for later use during post-construction activities, particularly from outcrop areas. • Topsoil shall be removed from all areas where physical disturbance of the surface will occur. • The removed topsoil shall be stored on high ground within the site footprint outside the 1:50 flood level within demarcated areas. • Topsoil shall be kept separate from overburden and shall not be used for building or maintenance of roads. • The stockpiled topsoil shall be protected from being blown away or being eroded. The application of a suitable grass seed/runner mix will facilitate this and reduce the minimise weeds. <p>Excavations</p> <ul style="list-style-type: none"> • Ensure excavations are undertaken as per specifications (SANS). 	Contractor / ESO	Continuous / throughout life of construction phase	Construction phase

<ul style="list-style-type: none"> • Ensure that excavations are not left open overnight. If it is necessary to do so, the working areas' demarcation must be checked by the safety officer to ensure that there is no potential for encroachment by fauna or people. The excavation may need to be covered using metal sheeting or other somewhat rigid cover. • No excavations may be left open overnight if rain is predicted. • Integrate shoring measures if pit walls are collapsing. • After backfilling an area, immediately commence with site stabilisation, and continue with weed management. • No surfaces must be left exposed for extended periods of time. • Excavations shall take place only within the approved demarcated site. • Excavations must follow the contour lines where possible. • The construction site will not be left in any way to deteriorate into an unacceptable state. • The excavated area must serve as a final depositing area for waste rock and overburden during the landscaping process. • Once excavations have been filled with overburden, rocks and coarse natural materials and profiled with acceptable contours (including erosion control measures), the previous stored topsoil shall be returned to its original depth over the area. <p>Erosion management</p> <ul style="list-style-type: none"> • Suitable measures must be implemented in areas that are susceptible to erosion. Areas must be rehabilitated, and a suitable cover crop planted once construction is completed. • Topsoil must be stripped and stockpiled separately and replaced on completion. • If natural vegetation re-establishment does not occur, a suitable grass must be applied. • Be mindful of weather conditions that may cause runoff. • Utilize silt fences, if necessary, at demarcated construction footprint, to capture runoff. • Take every measure to ensure that the bulk of the site clearing and earth moving activities take place in winter when rainfall is lowest (and the grass sward is thinnest) to minimize environmental damage, erosion, sedimentation and contamination. <p>Stormwater measures</p> <ul style="list-style-type: none"> • Utilize temporary stormwater structures, e.g. silt fences, to capture runoff before it creates erosion down slopes. • Adopt a sound stormwater management plan that is compiled to promote rainfall infiltration, maintain diffuse subsurface flows in seep areas, minimise the development of preferential flow paths. • Temporary drainage works may be required to prevent stormwater to prevent silt laden surface water from draining into river systems in proximity to the site. Stormwater must be prevented from entering or running off site. • To ensure that site is not subjected to excessive erosion and capable of drainage runoff with minimum risk of scour, their slopes must be profiled at a maximum 1:3 gradient. • It is important that the landscaping/stabilisation of the site is planned and completed in such a way that the runoff water will not cause erosion. • Visual inspections will be done on a regular basis with regard to the stability of water control structure, erosion and siltation. 			
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<ul style="list-style-type: none"> • Sediment-laden runoff from cleared areas must be prevented from entering rivers and streams. • No river or surface water may be affected by silt emanating from the site. <p>Specialist recommendations:</p> <ul style="list-style-type: none"> • <u>Aquatic Biodiversity</u> <ul style="list-style-type: none"> ○ Where road development takes places over watercourses or buffers culverts should be used to ensure the flow of water is not restricted. ○ Preparation of the crossing point and alteration of the culverts must be undertaken during the low flow period to avoid the need for river diversions and associated impacts. ○ The use of precast (depending on the dimensions) arch shaped (with an open base) box culverts, could result in substantial cost savings associated with lower difficulty and less time spent on site (speed of construction), which in turn will lower the environmental impact at the crossing site. ○ Inlets and outlets of the culvert must be positioned below the stream bed for the continuation of the streambed and natural movement of riverine substrates as discussed for Arch shaped box culverts. ○ The gradient and horizontal alignment of the culvert pipes must be the same as the existing watercourse bed. ○ Rocky material (aggregate) must be placed at the base of the culvert discharge point(s) to avoid the concentrated flow from eroding and scouring the receiving area. Ideally this layer should incorporate a double layer with the bottom layer partially sunken into the riverbed, with the second layer placed on top of the base layer. Due to the increased flow velocities created by smooth concrete and box culverts flow dynamics, the sediments in the discharge area are expected to be washed away. The double aggregate layer will limit this. ○ For best environmental practice implementation and least long term environmental impact, each watercourse crossing structure should incorporate larger box (single or multicell) culverts with natural riverine bottoms over the smaller culvert pipes. ○ Develop a sound stormwater management plan that is engineered to promote rainfall infiltration and minimise the development of preferential flow paths. The stormwater plan would also benefit from Lidar based topography maps and / or site-specific contours that allow for the identification of flow paths. Please refer to Appendix B of the site specific EMPr for a construction phase Stormwater management plan, this plan also includes interventions for implementation as part of the design phases. ○ <u>All low points, flow paths or clean water drains should be engineered to minimize erosion through the installation of small drop downs and flow attenuation structures especially out outlets into the floodplain.</u> ○ <u>Stormwater leaving the site should not be concentrated in a single exit drain but spread across multiple drains around the site each fitted with energy dissipaters (e.g. slabs of concrete with rocks cemented in or beds of aggregate).</u> 			
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<ul style="list-style-type: none"> ○ <u>Consider the use of a coarse gravel beneath the solar panels to promote infiltration and minimize surface run-off and erosion during high rainfall events. The gravel should be free of heavy metal contaminants.</u> 			
Performance Indicator	<ul style="list-style-type: none"> • Good "housekeeping" is evident on site. • The proposed development to pose a limited impact on the natural resources. 		

<i>Impact Management Objective: Limited impact on socio-economic regime</i>			
Potential impact(s) to be promoted.	<ul style="list-style-type: none"> • Enhanced socio-economic benefits of the proposed development. • Presence of construction workers and potential impacts on family structures and social networks • Influx of jobseekers • Safety risk, stock theft and damage to farm infrastructure associated with presence of construction workers • Increased risk of grass fires • Loss of farmland 		
Impact Management Outcome	Social benefits from the employment opportunities created during the construction phase.		
IMPACT MANAGEMENT ACTIONS			
Promotion measure	Responsible party	Frequency	Time period
<ul style="list-style-type: none"> • Preparation and implementation of a Stakeholder Engagement Plan (SEP) prior to and during the construction phase. • Preparation and implementation of a Community Health, Safety and Security Plan (CHSSP) prior to and during the construction phase. • The SEP and CHSSP should include a Grievance Mechanism that enables stakeholders to report resolve incidents. • The proponent, in consultation with the ELM, should investigate the option of establishing a MC to monitor and identify potential problems that may arise due to the influx of job seekers to the area. • The proponent and contractor should develop a Code of Conduct (CoC) for construction workers. The code should identify which types of behaviour and activities are not acceptable. Construction workers in breach of the code should be subject to appropriate disciplinary action and/or dismissed. All dismissals must comply with the South African labour legislation. The CoC should be signed by the proponent and the contractors before the contractors move onto site. The CoC should form part of the CHSSP. • The proponent and the contractor should implement an HIV/AIDS, COVID-19 and Tuberculosis (TB) awareness programme for all construction workers at the outset of the 	<p>Hercules Solar PV1 (Pty) Ltd</p> <hr/> <p>Hercules Solar PV1 / Contractor</p>	<p>Once-Off</p> <hr/> <p>Continuous</p>	<p>Pre-Construction phase</p> <hr/> <p>Pre-construction / Construction</p>

<p>construction phase. The programmes should form part of the CHSSP – this must be audited by the SHEQ officer.</p> <ul style="list-style-type: none"> • Where reasonable and practical, the proponent should appoint local contractors and implement a 'locals first' policy, especially for semi and low-skilled job categories. However, due to the low skills levels in the area, most skilled posts are likely to be filled by people from outside the area. • Where feasible, efforts should be made to employ local contractors that are compliant with Broad Based Black Economic Empowerment (BBBEE) criteria. • Before the construction phase commences the proponent should meet with representatives from the EM to establish the existence of a skills database for the area. If such a database exists, it should be made available to the contractors appointed for the construction phase. • The local authorities, community representatives, and organisations on the interested and affected party database should be informed of the final decision regarding the project and the potential job opportunities for locals and the employment procedures that the proponent intends following for the construction phase of the project. • Where feasible, training and skills development programmes for locals should be initiated prior to the initiation of the construction phase. • The recruitment selection process should seek to promote gender equality and the employment of women wherever possible. • The proponent should liaise with the EM with regards the establishment of a database of local companies, specifically BBBEE companies, which qualify as potential service providers (e.g. construction companies, catering companies, waste collection companies, security companies etc.) prior to the commencement of the tender process for construction contractors. These companies should be notified of the tender process and invited to bid for project-related work. • Where possible, the proponent should assist local BBBEE companies to complete and submit the required tender forms and associated information. • The ELM, in conjunction with the local business sector and representatives from the local hospitality industry, should identify strategies aimed at maximising the potential benefits associated with the project. • Note that while preference to local employees and companies is recommended, it is recognised that a competitive tender process may not guarantee the employment of local labour for the construction phase. • The contractor should provide transport for workers to and from the site on a daily basis. This will enable the contractor to effectively manage and monitor the movement of construction workers on and off the site. • The contractor must ensure that all construction workers from outside the area are transported back to their place of residence within 2 days for their contract coming to an end. • No construction workers, except for security personnel, should be permitted to stay overnight on the site. • The proponent should implement a policy that no employment will be available at the gate. 	<p>Hercules Solar PV1</p> <hr/> <p>Proponent / Contractor / ELM</p> <hr/> <p>Contractor</p> <hr/> <p>Hercules Solar PV1 / Contractor</p>	<p>Once-Off for main contractor / Continuous for sub-contractors</p> <hr/> <p>Continuous</p>	<p>Pre-construction / Construction</p> <hr/> <p>Construction</p>
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<ul style="list-style-type: none"> • The proponent should enter into an agreement with the local farmers in the area whereby damages to farm property etc. during the construction phase will be compensated for. The agreement should be signed before the construction phase commences. • All farm gates must be closed after passing through. • Contractors appointed by the proponent should provide daily transport for low and semi-skilled workers to and from the site. • The proponent should hold contractors liable for compensating farmers and communities in full for any stock losses and/or damage to farm infrastructure that can be linked to construction workers. This should be contained in the Code of Conduct to be signed between the proponent, the contractors, and neighbouring landowners. The agreement should also cover losses and costs associated with fires caused by construction workers or construction related activities (see below). • The Environmental Management Plan (EMP) must outline procedures for managing and storing waste on site, specifically plastic waste that poses a threat to livestock if ingested. • Contractors appointed by the proponent must ensure that all workers are informed at the outset of the construction phase of the conditions contained in the Code of Conduct, specifically consequences of stock theft and trespassing on adjacent farms. • Contractors appointed by the proponent must ensure that construction workers who are found guilty of stealing livestock and/or damaging farm infrastructure are dismissed and charged. This should be contained in the Code of Conduct. All dismissals must be in accordance with South African labour legislation. • <u>As per the conditions of the Code of Conduct, in the advent of a fire being caused by construction workers and or construction activities, the appointed contractors must compensate farmers for any damage caused to their farms. The contractor should also compensate the fire-fighting costs borne by farmers and local authorities.</u> • <u>It is recommended that no construction workers, with the exception of security personnel, should be permitted to stay over-night on the site.</u> • <u>Contractor should ensure that open fires on the site for cooking or heating are not allowed except in designated areas.</u> • <u>Smoking on site should be confined to designated areas.</u> • <u>Contractor should ensure that construction related activities that pose a potential fire risk, such as welding, are properly managed and are confined to areas where the risk of fires has been reduced. Measures to reduce the risk of fires include avoiding working in high wind conditions when the risk of fires is greater. In this regard special care should be taken during the high-risk dry, windy winter months.</u> • <u>Contractor should provide adequate fire-fighting equipment on-site.</u> • <u>Contractor should provide fire-fighting training to selected construction staff.</u> • <u>The movement of construction vehicles on the site should be confined to agreed access road/s.</u> • <u>Establishment of a Grievance Mechanism that provides local farmers and other road users with an effective and efficient mechanism to address issues related to construction related impacts, including damage to local gravel farm roads.</u> 			
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<ul style="list-style-type: none"> • <u>The movement of heavy vehicles associated with the construction phase should be timed to avoid times days of the week, such as weekends, when the volume of traffic travelling along the access roads may be higher.</u> • <u>Establishment of a Grievance Mechanism that provides local farmers and other road users with an effective and efficient mechanism to address issues related to construction related impacts, including damage to local gravel farm roads.</u> • <u>Minimise the footprint area of areas that are cleared for the PV SEF.</u> • <u>Dust suppression measures should be implemented, such as wetting on a regular basis and ensuring that vehicles used to transport sand and building materials are fitted with tarpaulins or covers.</u> • <u>All vehicles must be road worthy, and drivers must be qualified and made aware of the potential road safety issues and need for strict speed limits.</u> • <u>Compensation of loss of land should be paid before construction activities commence.</u> • <u>Existing internal roads should be used where possible. If new roads are required, these roads should be rehabilitated on completion of the construction phase.</u> • <u>The footprint associated with the construction related activities (access roads, construction camps, workshop etc.) should be minimised.</u> • <u>All areas disturbed by construction related activities, such as access roads on the site, construction camps etc., should be rehabilitated at the end of the construction phase.</u> • <u>The implementation of a rehabilitation programme should be included in the terms of reference for the contractor/s appointed. The specifications for the rehabilitation programme should be included in the EMPr.</u> • <u>The implementation of the Rehabilitation Programme should be monitored by the ECO.</u> 			
<p>Performance Indicator</p>	<p>A substantial proportion of the construction team is from the local community, with preference given to historically disadvantaged individuals and, where appropriate, unskilled labourers. Skills transfer from experienced to less experienced workers is actively encouraged on site. Limited negative impacts) to the social regime (including as reported by farmers and the local inhabitants of De Aar) of the construction phase.</p>		

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