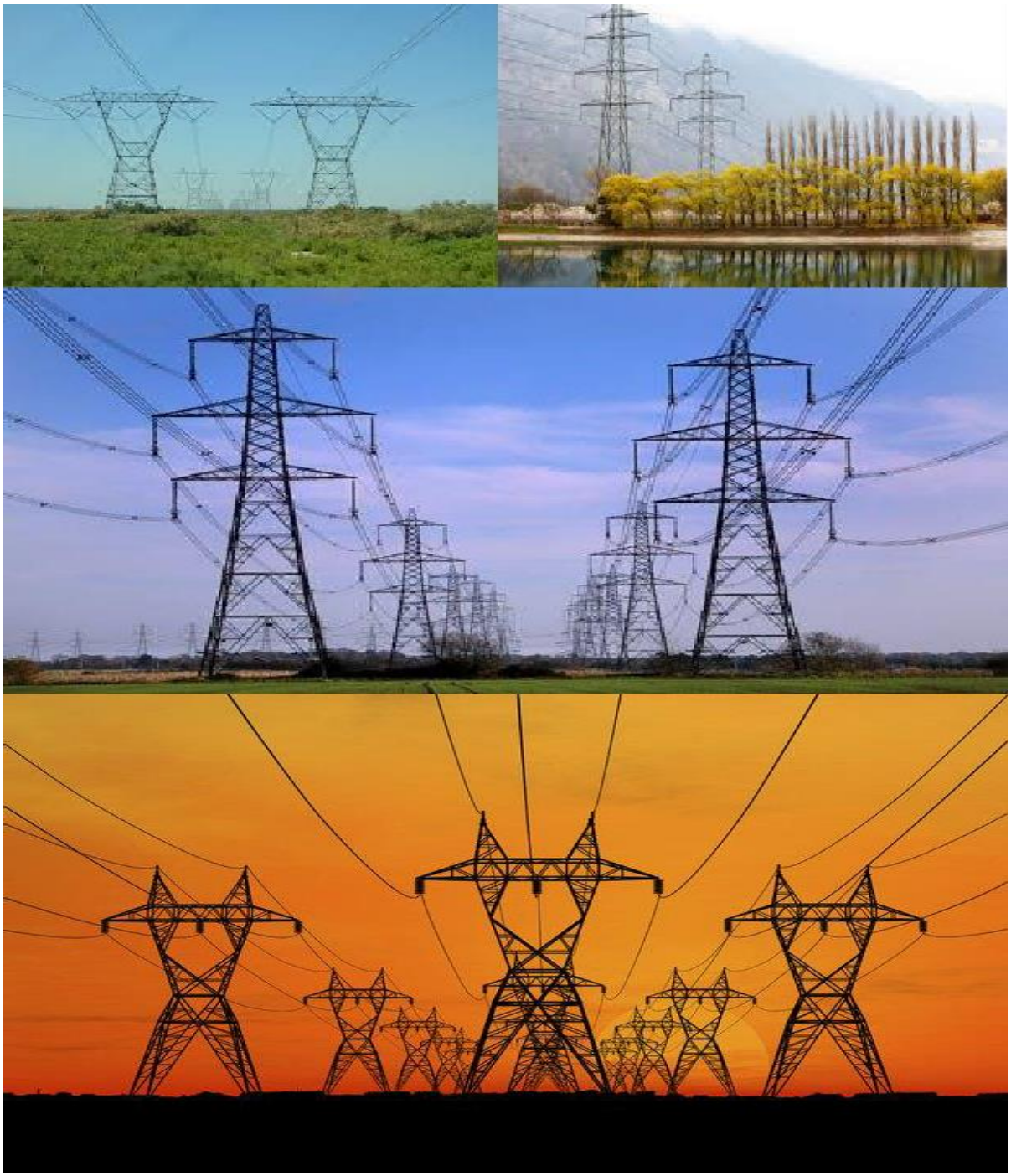
APPENDIX 1

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



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

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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 thecompetent authority (CA).

2. Purpose

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

3. Objective

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

4. Scope

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

5. Structure of this document

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

Part	Section	Heading	Content
A		Provides general guidance and information and are **not legally binding**	Definitions, acronyms, roles & responsibilities and documentation and reporting.
B	1	Pre-approved generic EMPr template	Contains generally accepted impact management outcomes and impact management actions required for the avoidance, management and mitigation of impacts and risks associated with the development or expansion of overhead electricity transmission and distribution infrastructure, which are presented in the form of a template that has been pre-approved. The template in this section is to be completed by the contractor, with each completed page signed and dated by the holder of the EA prior to commencement of the activity. Where an impact management outcome is not relevant, the words "not applicable" can be inserted in the template under the "responsible persons" column. Once completed and signed, the template represents the EMPr for the activity approved by the CA and is legally binding. The template is not required to be submitted to the CA as once the generic EMPr is gazetted for implementation, it has been approved by the CA. To allow interested and affected parties access to the pre-approved EMPr template for consideration through the decision-making process, the EAP on behalf of the applicant /proponent must make the hard copy of this EMPr available at a public location and where the applicant has a website, the EMPr should also be made available on such publicly accessible website.
	2	Site specific information	template contained in Part B: Section 1 and understands that the impact management outcomes and impact management actions are **legally binding**. The preliminary infrastructure layout must be finalized to inform the final EMPr that is to be submitted with the basic assessment report (BAR) or environmental impact assessment report (EIAR), ensuring that all impact management outcomes and actions have been

Part	Section	Heading	Content
			either pre-approved or approved in terms of Part C. This section **must be** submitted to the CAtogether with the final BAR or EIAR. The information submitted to the CA will be considered to be incomplete should a signed copy of Part B: section 2 not be submitted. Once approved, this Section forms part of the EMPr for the development and is legally binding.
C		Site specific sensitivities/ attributes	If any specific environmental sensitivities/ attributes are present on the site which require site specific impact management outcomes and impact management actions, not included in the pre-approved generic EMPr, to manage impacts, these specific impact management outcomes and impact management actions must be included in this section. These specific environmental attributes must be referenced spatially, and impact management outcomes and impact management actions must be provided. These specific impact management outcomes and impact management actions must be presented in the format of the pre-approved EMPr template (Part B: section 1) This section will not be required should the site contain no specific environmental sensitivities or attributes. However, if Part C is applicable to the site, it **is required** to be submitted together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. Once approved, Part C forms part of the EMPr for the site and is legally binding. This section applies only **to additional** impact management outcomes and impact management actions that are necessary for the avoidance, management and mitigation of impacts and risks associated with the specific development or expansion and which are not already included in Part B: section 1.
Appendix 1			Contains the method statements to be prepared prior to commencement of the activity. The method statements are **not required** to be submitted to the competent authority.

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

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

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

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

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

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

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

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

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

Sub-section 1 contains the project name, the applicant's name and contact details, the site information, which includes coordinates of the corridor in which the proposed overhead electricity transmission and distribution infrastructure is proposed as well as the 21-digit Surveyor General code of each cadastral land parcel and, where available, the farm name.

Sub-section 2 is to be prepared by an EAP and must contain his/her name and expertise including a curriculum vitae. This sub-section must include a map of the site sensitivityoverlaid with the preliminary infrastructure layout using the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool. The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps must identify features both within the planned working area andany known sensitive features in the surrounding landscape within 50m from the development footprint. The overhead transmission and distribution profile must be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distribution length is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions must be used.

Sub-section 3 is the declaration that the applicant/proponent or holder of the EA in the case of a change of ownership must complete, which confirms that the applicant/EA holder will comply with the pre-approved generic EMPr template in Section 1 and understands that the impact management outcomes and actions are legally binding.

(a) Amendments to Part B: Section 2 – site specific information and declaration

Should the EA be transferred, Part B: Section 2 must be completed by the new applicant/proponent and submitted with the application for an amendment of the EA in terms of Regulations 29 or 31 of the EIA Regulations, whichever applies. The information submitted as part of such an application for an amendment to an EA will be considered tobe 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 islocated at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management;

"contractor" - The Contractor has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract, are in line with the Environmental Management Programme and that Method Statements are implemented as described.

"hazardous substance" is a substance governed by the Hazardous Substances Act, 1973 (Act No. 15 of 1973) as well as the Hazardous Chemical and Substances Regulations, 1995;

"method statement" means a written submission by the Contractor to the Project Manager in response to this EMPr or a request by the Project Manager and ECO. The method statement must set out the equipment, materials, labour and method(s) the Contractor proposes using to carry out an activity identified by the Project Manager when requesting the Method Statement. This must be done in such detail that the Project Manager and ECO is able to assess whether the Contractor's proposal is in accordance with this specification and/or will produce results in accordance with this specification;

The method statement must cover applicable details with regard to:

(i) Construction procedures;
(ii) Plant, materials and equipment to be used;
(iii) Transporting the equipment to and from site;
(iv) How the plant/ material/ equipment will be moved while on site;
(v) How and where the plant/ material/ equipment will be stored;
(vi) The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
(vii) Timing and location of activities;
(viii) Compliance/ non-compliance; and
(ix) Any other information deemed necessary by the Project Manager.

"slope" means the inclination of a surface expressed as one unit of rise or fall for so many horizontal units;

"solid waste" means all solid waste, including construction debris, hazardous waste, excess cement/ concrete, wrapping materials, timber, cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers);

"spoil" means excavated material which is unsuitable for use as material in the construction works or is material which is surplus to the requirements of the construction works;

"topsoil" means a varying depth (up to 300 mm) of the soil profile irrespective of the fertility, appearance, structure, agricultural potential, fertility and composition of the soil; and

"works" means the works to be executed in terms of the Contract

2. ACRONYMS and ABBREVIATIONS

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

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

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

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

Responsible Person (s)	**Role and Responsibilities**
Developer's Project Manager (DPM)	Role 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). TheProject 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. Responsibilities - Be fully conversant with the conditions of the EA; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Developer and its Contractor(s); - Issuing of site instructions to the Contractor for corrective actions required; - Monitor the implementation of the EMPr throughout the project by means of site inspections and meetings. Overall management of the project and EMPr implementation; and - Ensure that periodic environmental performance audits are undertaken on the project implementation.
Developer Site Supervisor (DSS)	Role 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. <u>Responsibilities</u> - 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)	The responsibilities of the ECO will include the following: - Be aware of the findings and conclusions of all EA related to the development; - Be familiar with the recommendations and mitigation measures of this EMPr; - Be conversant with relevant environmental legislation, policies and procedures, and ensure compliance with them; - Undertake regular and comprehensive site inspections / audits of the construction site according to the generic EMPr and applicable licenses in order to monitor compliance as required; - Educate the construction team about the management measures contained in the EMPr and environmental licenses; - Compilation and administration of an environmental monitoring plan to ensure that the environmental management measures are implemented and are effective; - Monitoring the performance of the Contractors and ensuring compliance with the EMPr and associated Method Statements; - In consultation with the Developer Site Supervisor order the removal of person(s) and/or equipment which are in contravention of the specifications of the EMPr and/or environmental licenses; - Liaison between the DPM, Contractors, authorities and other lead stakeholders on all environmental concerns; - Compile a regular environmental audit report highlighting any non-compliance issues as well as satisfactory or exceptional compliance with the EMPr; - Validating the regular site inspection reports, which are to be prepared by the contractor Environmental Officer (cEO); - Checking the cEO's record of environmental incidents (spills, impacts, legal transgressions etc) as well as corrective and preventive actions taken; - Checking the cEO's public complaints register in which all complaints are recorded, as well as action taken; - Assisting in the resolution of conflicts; - Facilitate training for all personnel on the site – this may range from carrying out the training, to reviewing the training programmes of the Contractor; - In case of non-compliances, the ECO must first communicate this to the Senior Site Supervisor, who

	has the power to ensure this matter is addressed. Should no action or insufficient action be taken, the ECO may report this matter to the authorities as non-compliance; - Maintenance, update and review of the EMPr; - Communication of all modifications to the EMPr to the relevant stakeholders.
developer Environmental Officer (dEO)	<u>Role</u> 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. Responsibilities - Be fully conversant with the EMPr; - Be familiar with the recommendations and mitigation measures of this EMPr, and implement these measures; - Ensure that all stipulations within the EMPr are communicated and adhered to by the Employees, Contractor(s); - Confine the development site to the demarcated area; - Conduct environmental internal audits with regards to EMPr and authorisation compliance (on cEO); - Assist the contractors in addressing environmental challenges on site; - Assist in incident management: - Reporting environmental incidents to developer and ensuring that corrective action is taken, and lessons learnt shared; - Assist the contractor in investigating environmental incidents and compile investigation reports; - Follow-up on pre-warnings, defects, non-conformance reports; - Measure and communicate environmental performance to the Contractor; - Conduct environmental awareness training on site together with ECO and cEO; - Ensure that the necessary legal permits and / or licenses are in place and up to date; - Acting as Developer's Environmental Representative on site and work together with the ECO and contractor.
Contractor	<u>Role</u> The Contractor appoints the cEO and has overall responsibility for ensuring that all work, activities, and actions linked to the delivery of the contract are in line with the EMPr and that Method Statements are implemented as described. External contractors must ensure compliance with this EMPr while performing the onsite activities as per their contract with the Project Developer. The contractors are required, where specified, to provide Method Statements setting out in detail how the impact management actions contained in the EMPr will be implemented during the development or expansion for overhead electricity transmission and distribution infrastructure activities. Responsibilities

	- project delivery and quality control for the development services as per appointment; - employ a suitably qualified person to monitor and report to the Project Developer's appointed - person on the daily activities on-site during the construction period; - ensure that safe, environmentally acceptable working methods and practices are implemented and that equipment is properly operated and maintained, to facilitate proper access and enable any operation to be carried out safely; - attend on site meeting(s) prior to the commencement of activities to confirm the procedure and designated activity zones; - ensure that contractors' staff repair, at their own cost, any environmental damage as a result of a - contravention of the specifications contained in EMPr, to the satisfaction of the ECO.
contractor Environmental Officer(cEO)	<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: <u>Responsibilities</u> - 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 overhead electricity transmission and distribution infrastructure projects as a minimum requirement.

4.1 Document control/Filing system

The holder of the EA is solely responsible for the upkeep and management of the EMPr file. At a minimum, all documentation detailed below will be stored in the EMPr file. A hard copy of all documentation shall be filed, while an electronic copy may be kept where relevant. A duplicate file will be maintained in the office of the DSS (where applicable). This duplicate file must remain current and up-to-date. The filing system must be updated and relevant documents added as required. The EMPr file must be made available at all times on request by the CA or other relevant authorities. The EMPr file will form part of any environmental audits undertaken as prescribed in the EIA Regulations.

4.2 Documentation to be available

At the outset of the project the following preliminary list of documents shall be placed inthe 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 filedin 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 themto deal with the transgression, as it deems fit. The contractor is deemed not to have complied with the EMPr if, inter alia, There is a deviation from the environmental conditions, impact management outcomes and impact management actions , as approved in generic and site specific EMPr as relevant as set out in the EMPr, which deviation has, or may cause, an environmental impact.

4.8 Corrective action records

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

4.9 Photographic record

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

The Contractor shall:

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

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

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

4.10 Complaints register

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

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

4.11 Claims for damages

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

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

4.12 Interactions with affected parties

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

The ECOs shall:

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

4.13 Environmental audits

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

An Environmental Audit Report must be prepared monthly. The report will be tabled as the key point on the agenda of the Environmental Site Meeting. The Report is submitted for acceptance at the meeting and the final report will be circulated to the Project Manager and filed in the EMPr file. At a frequency determined by the EA, the ECOs shall submit the monthly reports to the CA. At a minimum the monthly report is to cover the following:

- Weekly Environmental Checklists;
- Deviations and non-compliances with the checklists;
- Non-compliances issued;
- Completed and reported corrective actions;
- Environmental Monitoring;
- General environmental findings and actions; and
- Minutes of the Bi-monthly Environmental Site Meetings.

4.14 Final environmental audits

On final completion of the rehabilitation and/or requirements of the EA a final EAR is to be prepared and submitted to the CA. The EAR must comply with Appendix 7 of the EIA Regulations.

PART B: SECTION 1: Pre-approved generic EMPr template

5. IMPACT MANAGEMENT OUTCOMES AND IMPACT MANAGEMENT ACTIONS

This section provides a pre-approved generic EMPr template with aspects that are common to the development of overhead electricity transmission and distribution infrastructure. There is a list of aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure, and for each aspect a set of prescribed impact management outcomes and associated impact management actions have been identified. Holders of EAs are responsible to ensure the implementation of these outcomes and actions for all projects as a minimum requirement, in order to mitigate the impact of such aspects identified for the development or expansion of overhead electricity transmission and distribution infrastructure.

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

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

5.1 Environmental awareness training

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All staff must receive environmental awareness training prior to commencement of the activities; – The Contractor must allow for sufficient sessions to train all personnel with no more than 20 personnel attending each course; – Refresher environmental awareness training is available as and when required; – All staff are aware of the conditions and controls linked to the EA and within the EMPr and made aware of their individual roles and responsibilities in achieving compliance with the EA and EMPr; – The Contractor must erect and maintain information posters at key locations on site, and the posters must include the following information as a minimum: a) Safety notifications; and b) No littering. – Environmental awareness training must include as a minimum the following: a) Description of significant environmental impacts, actual or potential, related to their work activities; b) Mitigation measures to be implemented when carrying out specific activities; c) Emergency preparedness and response procedures;	**dEO / cEO**	• **Provide environmental awareness training.** • **Provide a hard copyof the training material.** • **As defined and stipulated in a Method Statement.**	• **Start of construction.** • **Commencement of work by new staff.**	**ECO**	**Monthly**	• **Check the records of environmental awareness training provided** • **Check environmental awareness training attendance register.** • **Check training material.** • **Check for evidence of fires on site[1].**

[1] Site refers to the 32 m servitude of the proposed powerline

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

5.2 Site Establishment development

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– A method statement must be provided by the contractor prior to any onsite activity that includes the layout of the construction camp in the form of a plan showing the location of key infrastructure and services (where applicable), includingbut not limited to offices, overnight vehicle parking areas, stores, the workshop, stockpile and lay down areas, hazardous materials storage areas (including fuels), the batching plant (if one is located at the construction camp), designated access routes, equipment cleaning areas and the placement of staff accommodation, cooking and ablution facilities, waste and wastewater management; – Location of camps must be within approved area to ensure that the site does not impact on sensitive areas identified in the environmental assessment or site walk through; – Sites must be located where possible on previously disturbed areas; – The camp must be fenced in accordance with ***Section 5.5: Fencing and gate installation***.	**dEO / cEO**	• **As defined and stipulated in a Method Statement.**	• **Submit to ECO no less than 7 days prior to intended date of commencing an activity.** • **Prior to the establishment of a new construction camp.**	**ECO**	**Monthly**	• **Check availability of approved method statements.** • **Ensure that method statements are approved.** • **Check location of construction camp.**

5.3 Access restricted areas

Impact management outcome: Access to restricted areas prevented.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Identification of access restricted areas is to be informed by the environmental assessment, site walk through and any additional areas identified during development; – Erect, demarcate and maintain a temporary barrier withclear 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.	**dEO / cEO**	• **As defined and stipulated in a Method Statement.**	• **Start of construction in a new area.**	**ECO**	**Monthly / Start of construction ha new area.**	• **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
– Access to the servitude and tower positions must be negotiated with the relevant landowner and must fall within the assessed and authorised area; An access agreement must be formalised and signed by the DPM, Contractor and landowner before commencing with the activities; – The access roads to tower positions must be signposted after	**dEO / cEO**	• **Signed agreement between DPM, Contractor and Landowner.** • **Erect**	• **Prior to the use of access roads.** • **Re-vegetate and reinstate the roads to at least theoriginal**	**ECO**	**Monthly**	• **Filed signed agreement between DPM, Contractor and Landowner.** • **Check signposts erected.** • **Check condition**

access has been negotiated and before the commencement of the activities; – All private roads used for access to the servitude must be maintained and upon completion of the works, be left in at least the original condition – All contractors must be made aware of all these access routes. – Any access route deviation from that in the written agreement must be closed and re-vegetated immediately, at the contractor's expense; – Maximum use of both existing servitudes and existing roads must be made to minimize further disturbance through the development of new roads; – In circumstances where private roads must be used, the condition of the said roads must be recorded in accordance with ***section 4.9: photographic record***; prior to use and the condition thereof agreed by the landowner, the DPM, and the contractor; – Access roads in flattish areas must follow fence lines and tree belts to avoid fragmentation of vegetated areas or croplands – Access roads must only be developed on pre-planned and approved roads.		**signposts.** • **Maintain private roads.** • **Reinstate private roads to at least the original condition.** • **Re-vegetate areas where vegetation has been encroached upon.** • **Only approve use of existing access roads.**	**condition once use ofthe road hasconcluded.**			**of the private roads.** • **Check private roads are reinstatement toat least the original condition.** • **Check those areas where vegetation has been encroached upon has been re-vegetated.** • **Check that only approved access roads are uses.**

5.5 Fencing and Gate installation

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Use existing gates provided to gain access to all parts of the area authorised for development, where possible; – Existing and new gates to be recorded and documented in accordance with **section *4.9: photographic record***; – All gates must be fitted with locks and be kept locked at all times during the development phase, unless otherwise agreed with the landowner; – At points where the line crosses a fence in which there is no suitable gate within the extent of the line servitude, on the instruction of the DPM, a gate must be installed at the approval of the landowner; – Care must be taken that the gates must be so erected that there is a gap of no more than 100 mm between the bottom of the gate and the ground; – Where gates are installed in jackal proof fencing, a suitable reinforced concrete sill must be provided beneath the gate; – Original tension must be maintained in the fence wires; – All gates installed in electrified fencing must be re-electrified; All demarcation fencing and barriers must be maintained in good working order for the duration of overheadtransmission and distribution electricity infrastructure development	**dEO / cEO**	• **Photograph existing and new gates.** • **Lock all gates during construction, unless otherwise agreed with the landowner.** • **Obtain approval from landowners for the installation of gates, where required. Re-electrify fencing.** • **Maintain fencing and barriers.** • **Obtain approval from**	**Start of construction**	**ECO**	**Monthly**	• **Check that photographs of new and existing gates are documented.** • **Check if gates are locked.** • **Check approval has been obtained from landowners for the installation of gates.** • **Check that electrified fencing is re-electrified. Check that fences are being maintained.** • **Check that approval has been obtained from the landowner to**

activities; – Fencing must be erected around the camp, batching plants, hazardous storage areas, and all designated access restricted areas, where appropriate and would not cause harm to the sensitive flora; – Any temporary fencing to restrict the movement of life-stock must only be erected with the permission of the land owner. – All fencing must be developed of high quality material bearing the SABS mark; – The use of razor wire as fencing must be avoided; – Fenced areas with gate access must remain locked after hours, during weekends and on holidays if staff is away from site. Site security will be required at all times; – On completion of the development phase all temporary fences are to be removed; – The contractor must ensure that all fence uprights are appropriately removed, ensuring that no uprights are cut at ground level but rather removed completely.		**landowner to erect fencing to restrict movement of livestock.** • **Removal alltemporary fencing upon completion of construction.**				**erect fencing to restrict movement of livestock.** • **Check that all temporary fencing has been removed appropriately upon completion of construction.**

5.6 Water Supply Management

Impact management outcome: Undertake responsible water usage.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All abstraction points or bore holes must be registered with the DWS and suitable water meters installed to ensure that the abstracted volumes are measured on a daily basis; – The Contractor must ensure the following: a. The vehicle abstracting water from a river does not enter or cross it and does not operate from within the river; b. No damage occurs to the river bed or banks and that the abstraction of water does not entail stream diversionactivities; and c. All reasonable measures to limit pollution or sedimentation of the downstream watercourse are implemented. – Ensure water conservation is being practiced by: a. Minimising water use during cleaning of equipment; b. Undertaking regular audits of water systems; and c. Including a discussion on water usage and conservation during environmental awareness training. d. The use of grey water is encouraged.	**dEO / cEO**	• **Ensure relevant permits and licenses are obtained for water abstraction.** • **As definedand stipulated in a Method Statement.**	**Throughout construction**	**ECO**	**Monthly**	• **Check pollution control measures installed at areas where effluent is generated or stored** • **Check for evidence of water wastage.** • **Check that water is recycled and reused where possible.**

5.7 Storm and waste water management

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Runoff from the cement/ concrete batching areas must be strictly controlled, and contaminated water must be collected, stored and either treated or disposed of off-site, at a location approved by the project manager; – All spillage of oil onto concrete surfaces must be controlled by the use of an approved absorbent material and the used absorbent material disposed of at an appropriate waste disposal facility; – Natural storm water runoff not contaminated during the development and clean water can be discharged directly to watercourses and water bodies, subject to the Project Manager's approval and support by the ECO; – Water that has been contaminated with suspended solids, such as soils and silt, may be released into watercourses or water bodies only once all suspended solids have been removed from the water by settling out these solids in settlement ponds. The release of settled water back into the environment must be subject to the Project Manager's approval and support by the ECO.	**dEO / cEO**	• **Contain contaminated water for treatment or disposal at an approved location.** • **Remediate spills of oil or concrete using the appropriate material.** • **Create a settlement pond.**	**Throughout construction.**	**ECO**	**Monthly**	• **Check for evidence of on-site disposal.** • **Check effluent from cement batching is controlled and collected.** • **Check that spills have been addressed as specified.** • **Check that appropriate quantities of bioremediation products are available.** • **Check pollution control measures installed at areas where effluent is generated or stored.** • **Check the used of settling ponds on site.**

5.8 Solid and hazardous waste management

Impact management outcome: Waste is appropriately stored, handled and safely disposed of at a recognised waste facility**.**

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All measures regarding waste management must be undertaken using an integrated waste management approach; – Sufficient, covered waste collection bins (scavenger and weatherproof) must be provided; – A suitably positioned and clearly demarcated waste collection site must be identified and provided; – The waste collection site must be maintained in a clean and orderly manner; – Waste must be segregated into separate bins and clearly marked for each waste type for recycling and safe disposal; – Staff must be trained in waste segregation; – Bins must be emptied regularly; – General waste produced onsite must be disposed of at registered waste disposal sites/ recycling company; – Hazardous waste must be disposed of at a registered waste disposal site; – Certificates of safe disposal for general, hazardous and recycled waste must be maintained.	**dEO / cEO**	• **Identify and demarcate waste collection area.** • **Ensure waste is separated into labelled waste bins (e.g. recycling).** • **Include waste segregation in the environmental awareness training.** • **File all waste disposal receipts.**	**Throughout construction.**	**ECO**	**Monthly**	• **Check bins provided on site.** • **Check designated waste collection area.** • **Check records of recycling waste.** • **Check waste disposal receipts.**

5.9 Protection of watercourses and estuaries

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All watercourses must be protected from direct or indirect spills of pollutants such as solid waste, sewage, cement, oils, fuels, chemicals, aggregate tailings, wash andcontaminated water or organic material resulting from the Contractor's activities; – In the event of a spill, prompt action must be taken to clear the polluted or affected areas; – Where possible, no development equipment must traverse any seasonal or permanent wetland – No return flow into the estuaries must be allowed and no disturbance of the Estuarine Functional Zone should occur; – Development of permanent watercourse or estuary crossing must only be undertaken where no alternative access to tower position is available; – There must not be any impact on the long term morphological dynamics of watercourses or estuaries; – Existing crossing points must be favored over the creation of new crossings (including temporary access) – When working in or near any watercourse or estuary, the following environmental controls and consideration must be taken: • Water levels during the period of construction; • No altering of the bed, banks, course or characteristics of a watercourse	**dEO / cEO**	• **Contain and remediate hazardous spills immediately.** • **Use only existing tracks and access roads.** • **Ensure that refuelling takes place over a drip tray. Implement erosion prevention measures.** • **Rehabilitate and re-vegetate watercourse banks immediately after work has concluded.**	**Throughout construction.**	**ECO**	**Monthly**	• **Check that no activities cause environmental pollution on site.** • **Check that spills have been addressed as specified.** • **Check that no development equipment traverses seasonal or permanent wetlands.** • **Check for evidence of erosion gullies.** • **Check that rehabilitation and re-vegetation are implemented timeously.**

• During the execution of the works, appropriate measures to prevent pollution and contamination of the riparian environment must be implemented e.g. including ensuring that construction equipment is well maintained; • Where earthwork is being undertaken in close proximity toany watercourse, slopes must be stabilised using suitable materials, i.e. sandbags or geotextile fabric, to prevent sand and rock from entering the channel; and – Appropriate rehabilitation and re-vegetation measures forthe watercourse banks must be implemented timeously. In this regard, the banks should be appropriately and incrementally stabilised as soon as development allows.						

5.10 Vegetation clearing

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
General: – Indigenous vegetation which does not interfere with the development must be left undisturbed; – Protected or endangered species may occur on or near the development site. Special care should be taken not to damage such species; – Search, rescue and replanting of all protected and endangered species likely to be damaged during project development must be identified by the relevant specialist and completed prior to any development or clearing; – Permits for removal must be obtained from the Department of Agriculture, Forestry and Fisheries prior to the cutting or clearing of the affected species, and they must be filed; – The Environmental Audit Report must confirm that all identified species have been rescued and replanted and that the location of replanting is compliant with conditions of approvals; – Trees felled due to construction must be documented and form part of the Environmental Audit Report; – Rivers and watercourses must be kept clear of felled trees, vegetation cuttings and debris; – Only a registered pest control operator may apply herbicides	**dEO / cEO**	• **Limit clearing of vegetation to the construction footprint.** • **Obtain necessary permits before cutting or clearing vegetation.** • **Document tree felling.** • **Detail herbicide use on a register.** • **Fence off Witsenberg conebush between Pylon 89 and 90.** • **Remove alien invasive vegetation on the site.**	**Prior to construction**	**ECO**	**Monthly**	• **Check for evidence of offsite disturbance / vegetation clearing.** • **Check that necessary permits have been obtained before cutting and clearing vegetation.** • **Check that tree felling is documented.** • **Check rivers and watercourses are kept clear of cutor felled trees, Vegetation cuttings and debris.** • **Check that theuse of herbicides is carried out by a**

on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained; – A daily register must be kept of all relevant details of herbicide usage; – No herbicides must be used in estuaries; – All protected species and sensitive vegetation not removed must be clearly marked and such areas fenced off in accordance to ***Section 5.3: Access restricted areas***. **Servitude:** – Vegetation that does not grow high enough to cause interference with overhead transmission and distribution infrastructures, or cause a fire hazard to any plantation, must not be cut or trimmed unless it is growing in the road access area, and then only at the discretion of the ProjectManager; – Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the land owner and the EA holder – Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) anddisposed of at a recognised waste disposal facility; – Vegetation must be trimmed where it is likely to intrude on the minimum vegetation clearance distance (MVCD) or will intrude on this distance before the next scheduled – clearance. MVCD is determined from SANS 10280; – Debris resulting from clearing and pruning must be disposed of at a recognised waste disposal facility, unless the landowners wish to retain the cut vegetation; – In the case of the development of new overhead transmission and distribution infrastructures, a one metre "trace-line" must be cut through the vegetation for stringing purposes only and						**registered pest control operator.** • **Check that protected species are demarcated.** • **Check areas of vegetation clearance.** • **Check that alien invasive species are removed from the site.**

no vehicle access must be cleared along the "trace-line". Alternative methods of stringing which limit impact to the environment must always be considered.						

5.11 Protection of fauna

Impact management outcome: Minimise disturbance to fauna.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– No interference with livestock must occur without the landowner's written consent and with the landowner or a person representing the landowner being present; – The breeding sites of raptors and other wild birds species must be taken into consideration during the planning of the development programme; – Breeding sites must be kept intact and disturbance to breeding birds must be avoided. Special care must be taken where nestlings or fledglings are present; – Nesting sites on existing parallel lines must documented; – Special recommendations of the avian specialist must be adhered to at all times to prevent unnecessary disturbance of birds; – Bird guards and diverters must be installed on the new line as per the recommendations of the specialist; – No poaching must be tolerated under any circumstances. All animal dens in close proximity to the works areas must be marked as Access restricted areas; – No deliberate or intentional killing of fauna is allowed; – In areas where snakes are abundant, snake deterrents to be deployed on the pylons to prevent snakes climbing up, being electrocuted and causing power outages; and – No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or	**dEO / cEO**	• **Inspect vegetation for nests before clearing.** • **Document any identified nests.** • **Apply a no poaching policy on site. Ensure that all appropriate permits and authorisations are in place in terms of NEMBA.** • ***Place Eskom approved bird flight diverters in high sensitivity areas between Pylons 3 - 6, 15 - 18, 21 - 23, 33 - 39, 43 - 49, 50 - 52, 57 - 63, 66***	**Throughout construction**	**ECO**	**Monthly**	• **Check for evidence of faunal mortalities.** • **Check that Bird Flight Diverters are installed *in the necessary sections*.**

– relocated without appropriate authorisations/permits.		***- 67, 68 – 71 and 89 – 92.***				

5.12 Protection of heritage resources

Impact management outcome: Minimise impact to heritage resources.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Identify, demarcate and prevent impact to all known sensitive heritage features on site in accordance with the No-Go procedure in ***Section 5.3: Access restricted areas***; – Carry out general monitoring of excavations for potential fossils, artefacts and material of heritage importance; – All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences.	**dEO / cEO**	• **Demarcate no-go areas.** • **Empower staff to stop works on (chance) discovery of artefacts on site.**	**Throughout constructions.**	**ECO**	**Monthly**	• **Check that no-go areas have been demarcated.** • **Check reports of chance finds.** • **Check reports to HWC.**

5.13 Safety of the public

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Identify fire hazards, demarcate and restrict public access to these areas as well as notify the local authority of any potential threats e.g. large brush stockpiles, fuels etc.; – All unattended open excavations must be adequately fenced or demarcated; – Adequate protective measures must be implemented to prevent unauthorised access to and climbing of partly constructed towers and protective scaffolding; – Ensure structures vulnerable to high winds are secured; – Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged.	**dEO / cEO**	• **Notify local authority of potential fire threats.** • **Document incident and complaints.**	**Throughout construction and maintenance**	**ECO**	**Monthly**	• **Check local authority notification.** • **Check open excavations are fenced or demarcated.** • **Check that structures are secured.** • **Check complaints register.**

5.14 Sanitation

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Mobile chemical toilets are installed onsite if no other ablution facilities are available; – The use of ablution facilities and or mobile toilets must be used at all times and no indiscriminate use of the veld for the purposes of ablutions must be permitted under any circumstances; – Where mobile chemical toilets are required, the following must be ensured: a) Toilets are located no closer than 100 m to any watercourse or water body; b) Toilets are secured to the ground to prevent them from toppling due to wind or any other cause; c) No spillage occurs when the toilets are cleaned or emptied and the contents are managed in accordancewith the EMPr; d) Toilets have an external closing mechanism and are closed and secured from the outside when not in use to prevent toilet paper from being blown out; e) Toilets are emptied before long weekends and workers holidays, and must be locked after working hours; Toilets are serviced regularly and the ECO must inspect toilets to ensure compliance to health standards; f) A copy of the waste disposal certificates must be maintained.	**Contractor, cEO**	• **Secure toilets to the ground.** • **Maintain toilets in a hygienic state.** • **Retain toilet servicing receipts on site.**	• **Start of construction.**	**ECO**	**Monthly**	• **Check ablution facilities more than 100m from any watercourse.** • **Check that portable toilets are secure.** • **Check for evidence of portable toilet chemical spills.** • **Check for external closing mechanism.** • **Check toilet servicing receipt.**

5.15 Prevention of disease

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Undertake environmentally-friendly pest control in the camp area; – Ensure that the workforce is sensitised to the effects of sexually transmitted diseases, especially HIV AIDS; – The Contractor must ensure that information posters on AIDS are displayed in the Contractor Camp area; – Information and education relating to sexually transmitted diseases to be made available to both construction workers and local community, where applicable; – Free condoms must be made available to all staff on site at central points; – Medical support must be made available; – Provide access to Voluntary HIV Testing and Counselling Services.	**dEO / cEO**	**As defined and stipulated in a Method Statement**	**Throughout construction.**	**ECO**	**Monthly**	• **Check for records of pest control in the camp.** • **Check that information posters on AIDS are displayed at the Contractors Camp.** • **Check that medical support is available if required.**

5.16 Emergency procedures

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Compile an Emergency Response Action Plan (ERAP) prior to the commencement of the proposed project; – The Emergency Plan must deal with accidents, potential spillages and fires in line with relevant legislation; – All staff must be made aware of emergency procedures as part of environmental awareness training; – The relevant local authority must be made aware of a fire as soon as it starts; – In the event of emergency necessary mitigation measures to contain the spill or leak must be implemented (see ***Hazardous Substances section 5.17***).	**dEO / cEO**	• **Compile ERAP.** • **Inform staff of the ERAP.** • **Inform local authorities immediately in the event of a fire.**	• **Prior to construction** • **Throughout construction**	**ECO**	**Monthly**	• **Check ERAP is filed on site.** • **Check content of ERAP.**

5.17 Hazardous substances

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– The use and storage of hazardous substances to beminimised and non-hazardous and non-toxic alternatives substituted where possible; – All hazardous substances must be stored in suitable containers as defined in the Method Statement; – Containers must be clearly marked to indicate contents, quantities and safety requirements; – All storage areas must be bunded. The bunded area must be of sufficient capacity to contain a spill / leak from the stored containers; – Bunded areas to be suitably lined with a SABS approved liner; – An Alphabetical Hazardous Chemical Substance (HCS) control sheet must be drawn up and kept up to date on a continuous basis; – All hazardous chemicals that will be used on site must have Material Safety Data Sheets (MSDS); – All employees working with HCS must be trained in the safe use of the substance and according to the safety data sheet; – Employees handling hazardous substances / materials must	**dEO / cEO**	• **Minimize useof hazardous substances.** • **Ensure all containers are labelled.** • **Maintain an alphabetical HCS control sheet.** • **File MSDS' on site for all hazardous chemicals.** • **Inform staff of potential impacts of hazardous substances / materials.** • **Provide personal protective equipment.**	**Throughout construction and maintenance**	**ECO**	**Monthly**	• **Check procedures for storage of potential pollutants and hazardous substances.** • **Check hazardous material storage facilities.** • **Check the HCS.** • **Check MSDS are available for hazardous substances used on site.** • **Check that staff are using Appropriate personal protective equipment when using hazardous substances /**

be aware of the potential impacts and follow appropriate safety measures. Appropriate personal protective equipment must be made available; – The Contractor must ensure that diesel and other liquid fuel, oil and hydraulic fluid is stored in appropriate storage tanks or in bowsers; – The tanks/ bowsers must be situated on a smooth impermeable surface (concrete) with a permanent bund. The impermeable lining must extend to the crest of the bund and the volume inside the bund must be 130% of the total capacity of all the storage tanks/ bowsers (110% statutory requirement plus an allowance for rainfall); – The floor of the bund must be sloped, draining to an oil separator; – Provision must be made for refuelling at the storage area by protecting the soil with an impermeable groundcover. Where dispensing equipment is used, a drip tray must be used to ensure small spills are contained; – 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 refuelling away from the dedicated refuelling station is required, a mobile refuelling 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;		• **Establish a refuelling area.** • **Ensure thatdrip trays are used where required.** • **Establish a designated smoking area away from the hazardous storage area.** • **Secure hazardous substance / material storage area.** • **Ensure a spill kit is available on site.** • **Ensure that spills are remediated immediately.**				**materials.** • **Check refuelling areas are established.** • **Check use of drip trays on site.** • **Check material stores are secured.** • **Check fire fighting equipment is available and serviced.** • **Check for evidence of spills.** • **Check spill kit is present on site.** **Check spills are remediated.**

– An appropriate number of spill kits must be available and must be located in all areas where activities are being undertaken; – In the event of a spill, contaminated soil must be collected in containers and stored in a central location and disposed of according to the National Environmental Management: Waste Act 59 of 2008. Refer to ***Section 5.7*** for procedures concerning ***storm and waste water management*** and ***5.8*** for ***solid and hazardous waste management.***						

5.18 Workshop, equipment maintenance and storage

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Where possible and practical all maintenance of vehicles and equipment must take place in the workshop area; – During servicing of vehicles or equipment, especially where emergency repairs are effected outside the workshop area, a suitable drip tray must be used to prevent spills onto the soil. The relevant local authority must be made aware of a fire as soon as it starts; – Leaking equipment must be repaired immediately or be removed from site to facilitate repair; – Workshop areas must be monitored for oil and fuel spills; – Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available; – The workshop area must have a bunded concrete slab that is sloped to facilitate runoff into a collection sump or suitable oil / water separator where maintenance work on vehicles and equipment can be performed; – Water drainage from the workshop must be contained and managed in accordance ***Section 5.7: storm and waste water management***.	**dEO / cEO**	• **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**	**Monthly**	• **Check repairs take place in the workshop area.** • **Check drip trays are used during maintenance and repairs.** • **Check for evidence of leaks.** • **Check inspection / maintenance records.**

5.19 Batching plants

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Concrete mixing must be carried out on an impermeable surface; – Batching plants areas must be fitted with a containment facility for the collection of cement laden water. – Dirty water from the batching plant must be contained to prevent soil and groundwater contamination – Bagged cement must be stored in an appropriate facility and at least 10 m away from any water courses, gullies and drains; – A washout facility must be provided for washing of concrete associated equipment. Water used for washing must be restricted; – Hardened concrete from the washout facility or concrete mixer can either be reused or disposed of at an appropriate licenced disposal facility; – Empty cement bags must be secured with adequate binding material if these will be temporarily stored on site; – Sand and aggregates containing cement must be kept damp to prevent the generation of dust (Refer to ***Section 5.20: Dust emissions***) – Any excess sand, stone and cement must be removed or reused from site on completion of construction period and disposed at a registered disposal facility; – Temporary fencing must be erected around batching plants	**Contractor, cEO**	• **Provide drop sheets and mortar boards for concrete mixing.** • **Design and construct a containment facility for cement wash water.** • **Provide bins at least 10m away from watercourses, gullies and drains.** • **Fence the batching plants.**	**Throughout construction and maintenance**	**ECO**	**Monthly**	• **Check for evidence of batching activities on exposed soil.** • **Check cement wash water containment facility.** • **Check bins are provided.** • **Check dust emanating from the batching area.** • **Check excess sand, stone and cement is removed or reused on site.** • **Check batching plants are fenced.**

in accordance with ***Section 5.5: Fencing and gate installation***.						

5.20 Dust emissions

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the ECO; – Removal of vegetation must be avoided until such time as soil stripping is required and similarly exposed surfaces must be re-vegetated or stabilised as soon as is practically possible; – Excavation, handling and transport of erodible materials must be avoided under high wind conditions or when avisible dust plume is present; – During high wind conditions, the ECO must evaluate the situation and make recommendations as to whether dust-damping measures are adequate, or whether working will cease altogether until the wind speed drops to an acceptable level; – Where possible, soil stockpiles must be located in sheltered areas where they are not exposed to the erosive effects of the wind; – Where erosion of stockpiles becomes a problem, erosion control measures must be implemented at the discretion of the ECO; – Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas;	**cEO**	• **Implementdust suppression measures (e.g. by dampening, covering or applying chemical containment products).** • **Locate soil stockpiles in sheltered areas.** • **Implement speed limits on access roads.** • **Place and plough straw into exposed areas once earth works are completed.**	**Throughout construction.**	**ECO**	**Monthly**	• **Check for complaints *(and corrective action taken) regarding* dust.** • **Check that stockpiles are located in sheltered areas.** • **Check straw stabilisation has been implemented on site.**

– Straw stabilisation must be applied at a rate of one bale/10 m² and harrowed into the top 100 mm of top material, for all completed earthworks; – For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust.						

5.21 Blasting

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Any blasting activity must be conducted by a suitably licensed blasting contractor; and – Notification of surrounding landowners, emergency services site personnel of blasting activity 24 hours prior to such activity taking place on Site.	**dEO / cEO**	• **Appoint suitably licensed blasting contractor.** • **Notify surrounding landowners, emergency services and site personnel of blasting.**	• **Throughout construction.** • **Notify at least 24 hours prior to blasting, *preferably at least 1 week prior to planned blasting*.**	**ECO**	**Monthly**	• **Check appointed contractor is appropriately licenced.** • **Check notification of blasting.**

5.22 Noise

Impact Management outcome: Unnecessary noise is prevented by ensuring that noise from construction activities is mitigated.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– The Contractor must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only; – All vehicles and machinery must be fitted with appropriate silencing technology and must be properly maintained; – Any complaints received by the Contractor regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers; – Develop a Code of Conduct for the construction phase in terms of behaviour of construction staff. – Operating hours as determined by the environmental authorisation are adhered to during the developmentphase. Where not defined, it must be ensured that development activities must still meet the impact management outcome related to noise management.	**dEO / cEO**	• **Ensure vehicles and machinery are fitted with silencers.** • **Maintain vehicles and machinery.** • **Provide transport for construction workers.** • **Develop a Code of Conduct.** • **Limit construction activity to approved working hours (between 08h00 and 17h00)**	**Throughout construction and maintenance**	**ECO**	**Monthly**	• **Check complaints register for complaints about noise.** • **Check if transport is provided.** • **Check Code of Conduct.**

5.23 Fire prevention

Impact management outcome: Prevention of uncontrollable fires.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Designate smoking areas where the fire hazard could be regarded as insignificant; – Firefighting equipment must be available on all vehicles located on site; – The local Fire Protection Agency (FPA) must be informed of construction activities; – Contact numbers for the FPA and emergency services must be communicated in environmental awareness training and displayed at a central location on site; – Two way swop of contact details between ECO and FPA.	**dEO / cEO**	• **Designate smoking areas.** • **Procure firefighting equipment.** • **Liaise with the FPA where required.**	**Throughout construction and maintenance.**	**ECO**	**Monthly**	• **Check designated smoking area.** • **Check firefighting equipment is available.**

5.24 Stockpiling and stockpile areas

Impact management outcome: Erosion and sedimentation as a result of stockpiling are reduced.						
Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All material that is excavated during the project development phase (either during piling (if required) or earthworks) must be stored appropriately on site in order to minimise impacts to watercourses, watercourses and water bodies; – All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods; – Topsoil stockpiles must not exceed 2 m in height; – During periods of strong winds and heavy rain, the stockpiles must be covered with appropriate material (e.g. cloth, tarpaulin etc.); – Where possible, sandbags (or similar) must be placed at the bases of the stockpiled material in order to prevent erosion of the material.	**dEO / cEO**	• **As definedand stipulated in a Method Statement.** • **Ensure excavated material is stored appropriately.** • **Cover stockpiles during periods of high winds.** • **Implement erosion control measures.**	**Throughout construction and maintenance.**	**ECO**	**Monthly**	• **Check location of stockpiles.** • **Check that topsoil stockpiles do not exceed 2m.** • **Check that stockpiles are covered during periods of high winds.** • **Check erosion control measures are implemented.**

5.25 Finalising tower positions

Impact management outcome: No environmental degradation occurs as a result of the survey and pegging operations.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– No vegetation clearing must occur during survey and pegging operations; – No new access roads must be developed to facilitate access for survey and pegging purposes; – Project manager, botanical specialist and contractor to agree on final tower positions based on survey within assessed and approved areas; – The surveyor is to demarcate (peg) access roads/tracks in consultation with ECO. No deviations will be allowed without the prior written consent from the ECO.	**Eskom, Contractor, cEO**	• **Ensure no vegetation is cleared during surveying and pegging operations.** • **Obtain approvals for the final tower positions.**	**Prior to construction.**	**ECO**	**Monthly**	• **Check for clearance of vegetation.** • **Check for approvals of final tower positions.**

5.26 Excavation and Installation of foundations

Impact management outcome: No environmental degradation occurs as a result of excavation or installation of foundations.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All excess spoil generated during foundation excavation must be disposed of in an appropriate manner and at a recognised disposal site, if not used for backfilling purposes; – Spoil can however be used for landscaping purposes and must be covered with a layer of 150 mm topsoil for rehabilitation purposes; – Management of equipment for excavation purposes must be undertaken in accordance with ***Section 5.18: Workshop equipment maintenance and storage***; and – Hazardous substances spills from equipment must be managed in accordance with ***Section 5.17: Hazardous substances***. – Batching of cement to be undertaken in accordance with **Section *5.19 : Batching plants***; – Residual cement must be disposed of in accordance with **Section *5.8: Solid and hazardous waste management***.	**Contractor, cEO**	• **As definedand stipulated in a Method Statement.**	**Throughout construction and maintenance.**	**ECO**	**Monthly**	• **Check that spoil disposed from site is done in an appropriate manner.** • **Check that topsoil is placed during rehabilitation,**

5.27 Assembly and erecting towers

Impact management outcome: No environmental degradation occurs as a result of assembly and erecting of towers.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Prior to erection, assembled towers and tower sections must be stored on elevated surface (suggest wooden blocks) to minimise damage to the underlying vegetation; – In sensitive areas, tower assembly must take place off-site or away from sensitive positions; – The crane used for tower assembly must be operated in a manner which minimises impact to the environment; – The number of crane trips to each site must be minimised; – Wheeled cranes must be utilised in preference to tracked cranes; – Consideration must be given to erecting towers by helicopter or by hand where it is warranted to limit the extent of environmental impact; – Access to tower positions to be undertaken in accordance with access requirements in specified in Section 8.4: Access Roads; – Vegetation clearance to be undertaken in accordance with general vegetation clearance requirements specified in Section 8.10: Vegetation clearing; – No levelling at tower sites must be permitted unless approved by the Development Project Manager or Developer Site Supervisor;	**dEO / cEO**	• **As definedand stipulated in a Method Statement.** • **Where possible the towers should be assembled off-site.** • **Ensure that topsoil is managed appropriately in terms of these management actions.** • **Ensure that the disturbed area is rehabilitated in terms of these management actions.**	**Throughout construction**	**ECO**	**Monthly**	• **Check that tower sections are stored on an elevated surface.** • **Check that where possible the towers are assembled off-site.** • **Check for disturbance of the surrounding environment.** • **Check that access restrictions to tower positions are complied with.** • **Check that topsoil stockpiles do not exceed 1 m.** • **Check that appropriate erosion control measures are implemented on site.**

– Topsoil must be removed separately from subsoil material and stored for later use during rehabilitation of such tower sites; – Topsoil must be stored in heaps not higher than 1m to prevent destruction of the seed bank within the topsoil; – Excavated slopes must be no greater that 1:3, but where this is unavoidable, appropriate measures must be undertaken to stabilise the slopes; – Fly rock from blasting activity must be minimised and any pieces greater than 150 mm falling beyond the Working Area, must be collected and removed; – Only existing disturbed areas are utilised as spoil areas; – Drainage is provided to control groundwater exit gradient with the spill areas such that migration of fines is kept to a minimum; – Surface water runoff is appropriately channelled through or around spoil areas; – During backfilling operations, care must be taken not to dump the topsoil at the bottom of the foundation and then put spoil on top of that; – The surface of the spoil is appropriately rehabilitated in accordance with the requirements specified in Section 5.29: Landscaping and rehabilitation; – The retained topsoil must be spread evenly over areas to be rehabilitated and suitably compacted to effect re-vegetation of such areas to prevent erosion as soon as construction activities on the site is complete. Spreading of topsoil must not be undertaken at the beginning of the dry season.						

5.28 Stringing

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Where possible, previously disturbed areas must be used for the siting of winch and tensioner stations. In all other instances, the siting of the winch and tensioner must avoid Access restricted areas and other sensitive areas; – The winch and tensioner station must be equipped with drip trays in order to contain any fuel, hydraulic fuel or oil spills and leaks; – Refuelling of the winch and tensioner stations must be undertaken in accordance with Section 5.17: Hazardous substances; – In the case of the development of overhead transmission and distribution infrastructure, a one metre "trace-line" may be cut through the vegetation for stringing purposes onlyand no vehicle access must be cleared along "trace-lines". Vegetation clearing must be undertaken by hand, using chainsaws and hand held implements, with vegetation being cut off at ground level. No tracked or wheeled mechanised equipment must be used; – Alternative methods of stringing which limit impact to the environment must always be considered e.g. by hand or by using a helicopter; – Where the stringing operation crosses a public or privateroad	**Contractor, dEO, cEO**	• **As definedand stipulated in a Method Statement.** • **Ensure that drip trays are in use.** • **Ensure that all relevant permissions are obtained to access public or private properties.** • **Ensure that methods with the least impact on the environment should be used.**	**Throughout construction and maintenance.**	**ECO**	**Monthly**	• **Check for disturbance of the environment as a result of stringing activities.** • **Check for spills or leaks from equipment used on site.** • **Check that relevant permission to access properties have been obtained.** • **Check that potentially affected parties are notified accordingly.**

or railway line, the necessary scaffolding/ protection measures must be installed to facilitate access. If, for any reason, such access has to be closed for any period(s) during development, the persons affected must be given reasonable notice, in writing; – No services (electrical distribution lines, telephone lines, roads, railways lines, pipelines fences etc.) must be damaged because of stringing operations. Where disruption to services is unavoidable, persons affected must be given reasonable notice, in writing; – Where stringing operations cross cultivated land, damage to crops is restricted to the minimum required to conduct stringing operations, and reasonable notice (10 work days minimum), in writing, must be provided to the landowner; – Necessary scaffolding protection measures must be installed to prevent damage to the structures supporting certain high value agricultural areas such as vineyards, orchards, nurseries.						

5.29 Socio-economic

Impact management outcome: Socio-economic development is enhanced.

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Develop and implement communication strategies to facilitate public participation; – Develop and implement a collaborative and constructive approach to conflict resolution as part of the external stakeholder engagement process; – Sustain continuous communication and liaison with neighbouring 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.	**dEO / cEO**	• **Develop and implement communication strategies.** • **Develop approach to conflict resolution.** • **Communicate with neighbouring landowners and residents.** • **Create job opportunities for local workers.**	**Throughout construction and maintenance.**	**ECO**	**Monthly**	• **Check methods developed for communication.** • **Check communication with neighbouring landowners and residents.** • **Check that no works are staying overnight on the site.**

5.30 Temporary closure of site

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– Bunds must be emptied (where applicable) and need to be undertaken in accordance with the impact management actions included in ***sections 5.17: management of hazardous substances*** and ***5.18 workshop, equipment maintenance and storage***; – Hazardous storage areas must be well ventilated; – Fire extinguishers must be serviced and accessible. Service records to be filed and audited at last service; – Emergency and contact details displayed must be displayed; – Security personnel must be briefed and have the facilities to contact or be contacted by relevant management and emergency personnel; – Night hazards such as reflectors, lighting, traffic signage etc. must have been checked; – Fire hazards identified and the local authority must havebeen 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;	**dEO / cEO**	• **As defined and stipulated in a Method Statement.** • **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**	**Throughout construction.**	**ECO**	**Monthly**	• **Check that bunds and drip trays are emptied of effluent.** • **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.**

– Refuse bins must have been emptied and secured; – Drip trays must have been emptied and secured.		**must be implemented.** • **Toilets and bins must be emptied.**				• **Check that bins have been emptied.**

5.31 Landscaping and rehabilitation

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

Impact Management Actions	**Implementation**			**Monitoring**		
	Responsible person	Method of implementation	Timeframe for implementation	Responsible person	Frequency	Evidence of compliance
– All areas disturbed by construction activities must be subject to landscaping and rehabilitation; All spoil and waste must be disposed to a registered waste site and certificates of disposal provided; – All slopes must be assessed for contouring, and to contour only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983 – All slopes must be assessed for terracing, and to terrace only when the need is identified in accordance with the Conservation of Agricultural Resources Act, No 43 of 1983; – Berms that have been created must have a slope of 1:4 and be replanted with indigenous species and grasses that approximates the original condition; – Where new access roads have crossed cultivated farmlands, that lands must be rehabilitated by ripping which must be agreed to by the holder of the EA and the landowners; – Rehabilitation of tower sites and access roads outside of farmland; – Indigenous species must be used for with speciesand/grasses to where it compliments or approximates the original condition; – Stockpiled topsoil must be used for rehabilitation (refer to	**dEO, cEO**	• **As defined and stipulated in a Method Statement.** • **Ensure that slopes are assessed for contouring and terracing.** • **Ensure that tower sites and access roads are rehabilitated.** • **Rehabilitate with indigenous species.** • **Ensure that top soil is used for rehabilitation rather than backfilling.**	**Throughout construction.**	**ECO**	**Monthly**	• **Check that areas disturbed as a result of construction have been rehabilitated.** • **Check that appropriate access roads have been rehabilitated.** • **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 (i.e. there is no evidence of erosion).**

Section ***5.24: Stockpiling and stockpiled areas***); – Stockpiled topsoil must be evenly spread so as to facilitate seeding and minimise loss of soil due to erosion; – Before placing topsoil, all visible weeds from the placement area and from the topsoil must be removed; – Subsoil must be ripped before topsoil is placed; – The rehabilitation must be timed so that rehabilitation can take place at the optimal time for vegetation establishment; – Where impacted through construction related activity, all sloped areas must be stabilised to ensure proper rehabilitation is effected and erosion is controlled ; – Sloped areas stabilised using design structures or vegetation as specified in the design to prevent erosion of embankments. The contract design specifications must be adhered to and implemented strictly; – Spoil can be used for backfilling or landscaping as long as it is covered by a minimum of 150 mm of topsoil. – Where required, re-vegetation including hydro-seeding can be enhanced using a vegetation seed mixture as described below. A mixture of seed can be used provided the mixture is carefully selected to ensure the following: a) Annual and perennial plants are chosen; b) Pioneer species are included; c) Species chosen must be indigenous to the area with the seeds used coming from the area; d) Root systems must have a binding effect on the soil; The final product must not cause an ecologicalimbalance in the area						

6 ACCESS TO THE GENERIC EMPr

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

PART B: SECTION 2

7 SITE SPECIFIC INFORMATION AND DECLARATION

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

7.1.1 Details of the applicant: **Eskom Holdings SOC Limited (Eskom)**

Name of applicant: **C/O Namhla Dondi**

Tel No: **021 980 3112**

Fax No: **N/A**

Postal Address: **PO Box 222, Brackenfell, 7560**

Physical Address: **Eskom Road, Protea Heights, Brackenfell**

7.1.2 Details and expertise of the EAP:

Name of EAP: **Kelly Armstrong**

Tel No: **021 659 3060**

Fax No: **086 530 7003**

E-mail address: **karmstrong@srk.co.za**

Expertise of the EAP (Curriculum Vitae [CVs] included):

Kelly Armstrong: BSocSc (Hons) Environmental Science.

CVs included in Appendix 2

7.1.3 Project name: **Eskom Ceres – Witzenberg 132 kV Powerline and Prince Alfred Hamlet Substation, Witzenberg Municipality, Western Cape.**

7.1.4 Description of the project:

Background

Eskom Holdings SOC Limited, Western Cape Operating Unit: Distribution Division (Eskom – the Applicant) propose to construct a new 17 km, 132 kilovolt[2] (kV) single circuit powerline (the powerline) and substation. The new powerline will extend from the existing Ceres substation, bypass a new 132 kV substation in Prince Alfred Hamlet and terminate at the existing Witzenberg substation in the Witzenberg Municipality, Western Cape (the project - see Figure 7-1).

SRK Consulting (South Africa) Pty Ltd (SRK) was appointed by Eskom to undertake the Basic Assessment (BA) process for the project, which is required in terms of the National Environmental Management Act 107 of 1998 (NEMA) and the Environmental Impact Assessment (EIA) Regulations, 2014 (Government Notice [GN] R982, as amended by GN R326). The BA Report (to which this document is an appendix) contains a detailed description of the project and its impacts.

[2] 1 kilovolt is equal to 1 000 volts

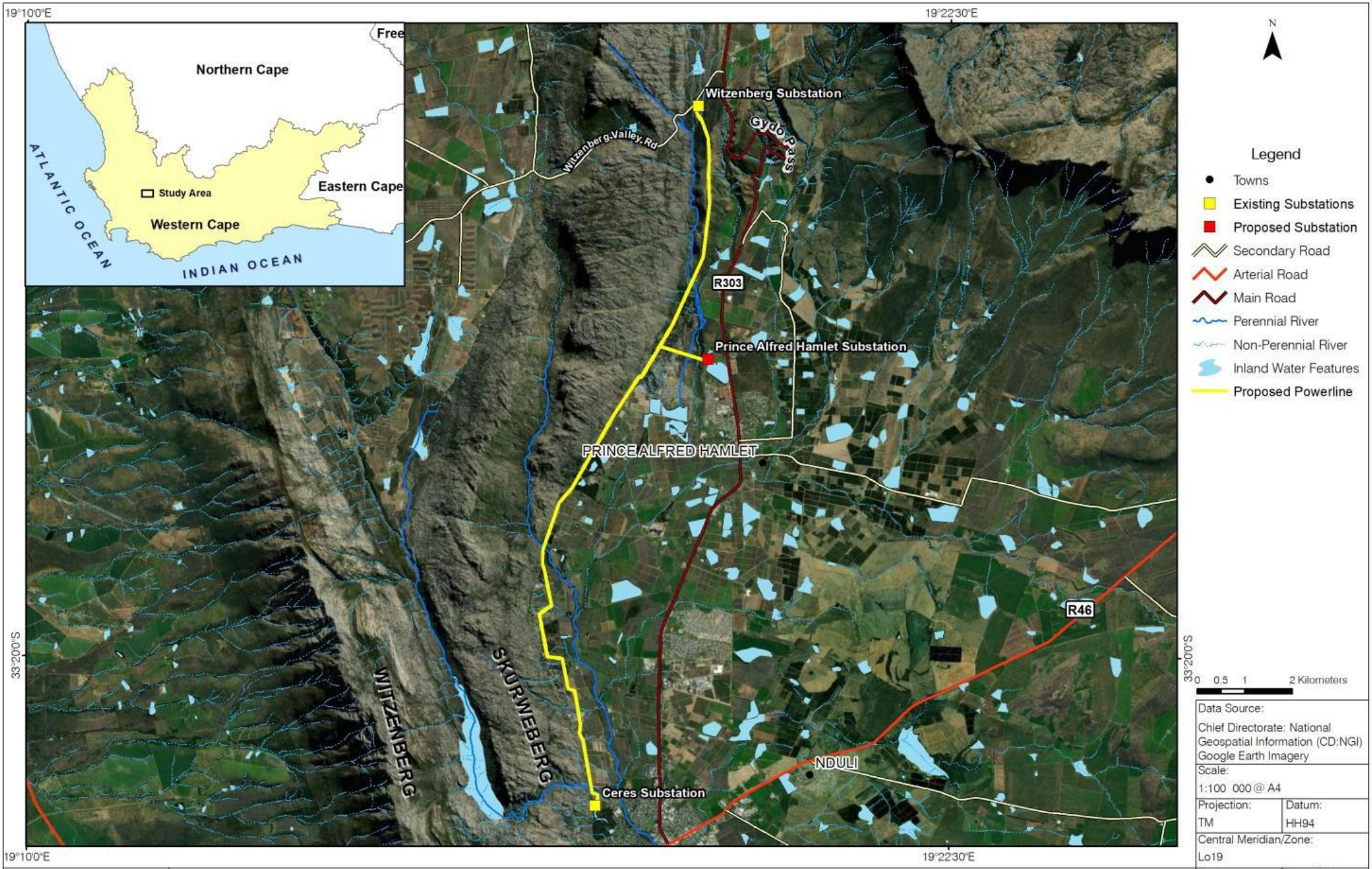
NEMA requires that an Environmental Management Programme (EMPr) be submittedalong with the BA Report to demonstrate how environmental management and mitigation measures will be implemented. In addition to this requirement, Eskom will trigger the following activities listed in NEMA during construction and ongoing maintenance of the powerline:

1. Listing Notice 1, Activity 11: The development of facilities or infrastructure for the transmission and distribution of electricity (i) outside urban areas or industrial complexes with a capacity of more than 33, but less than 275kV;

2. Listing Notice 1, Activity 12: The development of (ii) infrastructure or structures with a physical footprint of 100 square metres or more; where such development occurs – (a) within a watercourse; or (c) if no development setback exists, within 32 metres of a watercourse, measures from the edge of a watercourse.

3. Listing Notice 3, Activity 12: the clearance of an area of 300 square metres or more of indigenous vegetation; and

4. Listing Notice 3, Activity 14: The development of (ii) infrastructure or structures with a physical footprint of 10 square metres of more (c) within 32 metres of a watercourse, outside an urban area in a protected area identified in National Environmental Management: Protected Areas Act 57 of 2003.



Data Source:	Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery
Scale:	1:100 000 @ A4
Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	04/02/2021
Compiled by:	DUSS
Project No:	532062
Fig No:	7-1

srk consulting

CERES – WITZENBERG POWERLINE

LOCALITY MAP

Path: G:\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\532062_Fig1-1_Witzenberg BA_LocalityMap_A4L_20210211.mxd

Revision: A Date: 15 02 2021

Project Description

The Witzenberg Substation is currently supplied by one 132 kV[1] single circuit powerline. This line runs from the Romansrivier Substation, via Tulbagh, over the Witzenberg Mountain Range. Three 66 kV feeders (powerlines) from the Witzenberg Substation supply the Ceres, Gydo and Slangboom Substations from where Eskom's customers draw their electricity.The Witzenberg Substation also supplies Prince Alfred Hamlet directly through a 11 kV line.

A 66 kV powerline used to run between the Romansriver and Witzenberg Substations via Ceres. A portion of this line between Romansriver and Ceres burnt down, cutting supply from Romansriver to Ceres and Witzenberg, reducing the reliability of supply to the area (i.e. the only supply to Witzenberg is the 132 kV line from Romansriver to Witzenberg, and the only supply to Ceres is from the remaining portion of the 66 kV line from Witzenberg to Ceres).

Therefore, both the Ceres and the Witzenberg Substations are solely dependent on the 132 kV line between Romansriver and Witzenberg. Eskom would be unable to supply the dependent network (i.e. the towns of Prince Alfred Hamlet and Ceres) for several months should a fault occur on this line (i.e. until the line is repaired[3]).

Eskom therefore propose to:

- Construct a new double circuit powerline (132kV and 66kV) from the Romansrivier Substation to the Ceres Substation (Phase 1, which has received EA[4]) (see Figure 7-2); and
- Extend the 132 kV line from the Ceres Substation to the Witzenberg Substation (Phase 2, and the subject of this application) (see Figure 7-1 and Figure 7-2).

The new 132 kV line would provide and a backup 132 kV supply to Witzenberg, and ensure 132 kV supply to Ceres Substation in the event of a fault on the existing 132 kV line between the Romansrivier Substation and the Witzenberg Substation over the Witzenberg Mountain Range.

The project consists of the following key components:

- Construction of a 132 kV single circuit distribution powerline between Ceres substation and Witzenberg substation, including a tie-in to the new Prince Alfred Hamlet substation;
- Construction of the new 132 kV Prince Alfred Hamlet substation located to the north west of Prince Alfred Hamlet (see Figure 7-1);
- Installation of new 132 kV feeder bays at the Witzenberg Substation;
- Stringing conductors;
- Periodic and emergency repairs to pylons;
- Restringing of conductors; and
- Trimming and clearing of vegetation to maintain line clearance.

Based on the preliminary design, the proposed powerline will be installed on 92 pylons between the Ceres and Witzenberg Substations and will be approximately 17 km long.

[3] Repairs to this line would take an excessive amount of time as the pylons are old and no designs (or spares) are available for this infrastructure.

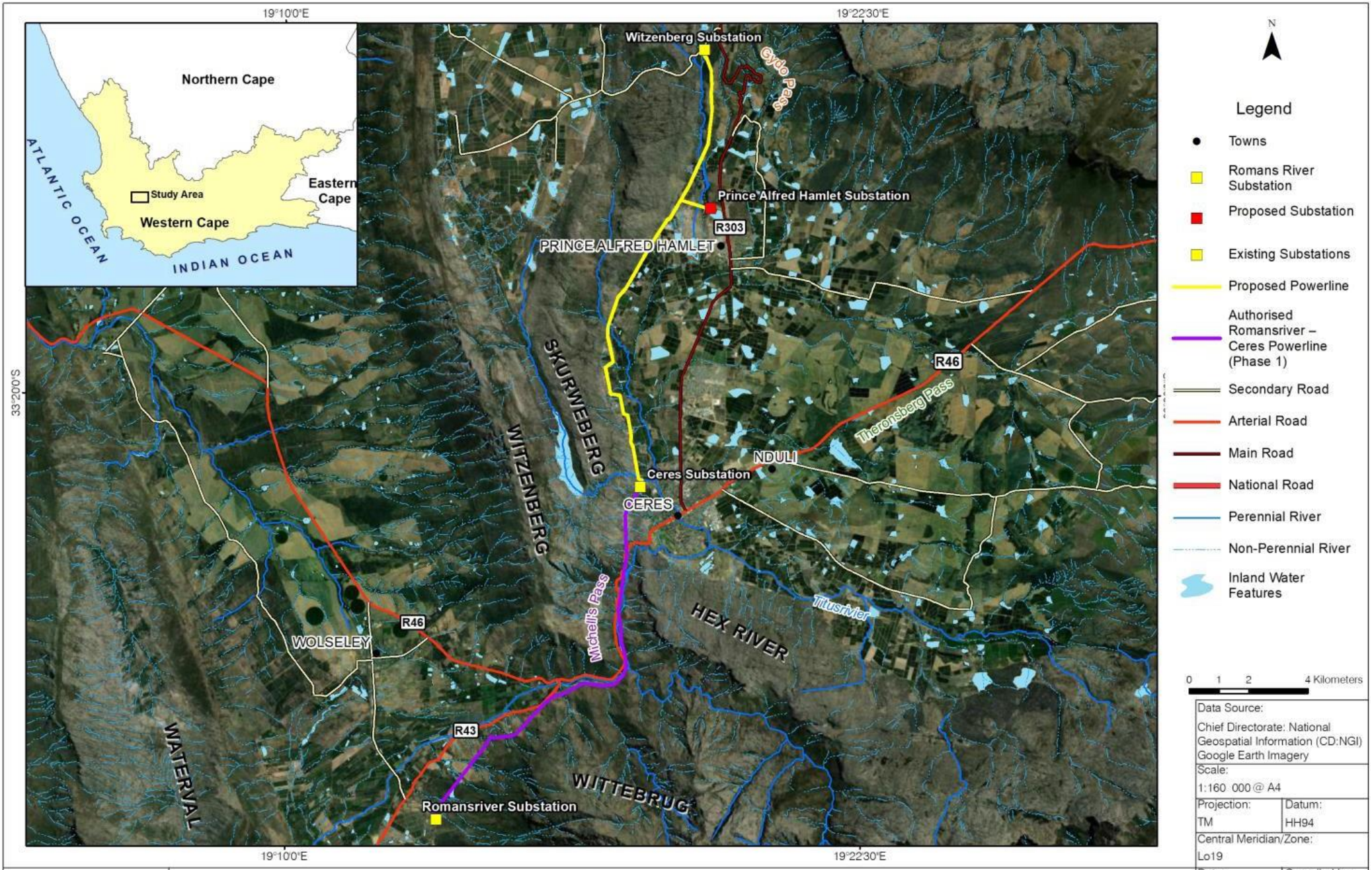
[4] EA (DFFE ref. no. 14/12/16/3/3/1/1822) was granted by the DFFE on 25 April 2018 for Phase 1 of the project.

Foundations of pylons will be between 1.8 m and 9 m deep. It is anticipated that there will bea disturbance footprint of approximately 100 m^2 per pylon, which includes an excavation footprint (55 m^2) soil stockpile and laydown area at each site. Blasting will be required to excavate the foundations at certain pylon locations.

Wherever possible, new pylons are located in close proximity to existing infrastructure (pylons) and access roads. Due to access constraints and environmental sensitivities onthe ridge near the Witzenberg Substation, Eskom proposes to use helicopters for construction and maintenance of Pylons 67 to 88. These pylons will be assembled and installed in a modular fashion. No new access roads are anticipated at these pylons.

Following the completion of the Construction Phase, the powerline will be commissioned into operation. No physical operational activities are anticipated other than ongoing maintenance of the line.

A more detailed project description is provided in Section 3 of the BA Report (SRK Consulting Report No: 532062/03, April 2024).



Data Source:	Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery
Scale:	1:160 000 @ A4
Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	05/05/2021
Compiled by:	DUSS
Project No:	532062
Fig No:	7-2

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EXISTING ROMANSRIVER – CERES POWERLINE

BROADER PROJECT

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\532062_Fig3-1_Witzenberg BA_Broader Project_A4L_20210505.mxd

Revision: A Date: 02 06 2021

7.1.5 Project location:

The project is located in the Ceres Valley (also known as the Warm Bokkeveld Valley) surrounded by mountains of the Cape Fold Belt. The valley is accessed through mountain passes (Michell's Pass from Cape Town, Theronsberg Pass from Touws River and Gydo Pass from Citrusdal – see Figure 7-2). The fertile Ceres Valley is known for producing deciduous fruits but is also an attractive tourist destination for outdoor activities.

The study area for the powerline comprised of a 100m corridor (i.e. 50m either side of the line) extending the full length of the proposed 17 km powerline route between the Ceres and Witzenberg Substations, tie-in to Prince Alfred Hamlet and Erf 528, the Prince Alfred Hamlet Substation site. Note, that all references to' the site' refer to the 32m wide servitude.

The line would extend from the Ceres Substation (in the magisterial district of Ceres), passes Prince Alfred Hamlet and terminate at the Witzenberg Substation located adjacent to Witzenberg Valley Road, off Gydo Pass (see Figure 7-1). The Ceres Substationis located ~2km to the north-west of the town of Ceres on transformed land. The corridor runs parallel to, and to the west of the existing 66 kV and 11 kV powerlines, and spans two different vegetation types (or terrestrial habitat units): Winterhoek Sandstone Fynbos (Least Threatened) and Ceres Shale Renosterveld Vegetation (Vulnerable).

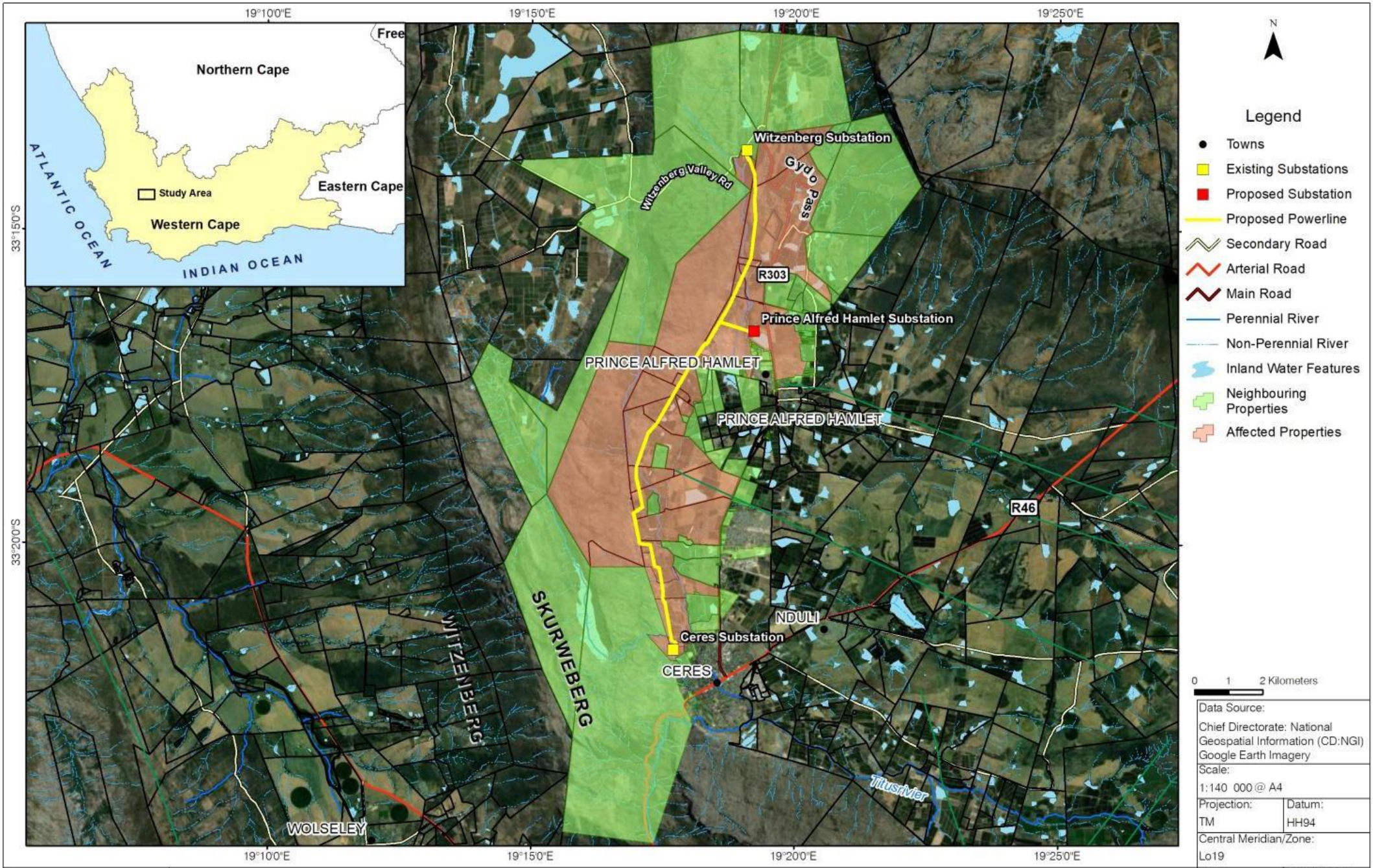
Approximately 14 820 m^2 (~1.5 ha) of vegetation will be cleared during construction of the project. Of this 0.66 ha of Ceres Shale Renosterveld (Vulnerable) vegetation will be cleared.

The 28 affected land parcels are listed in Table 7-1 and mapped in Figure 7-3.

Table 7-1: List of affected land parcels

NO	FARM / ERF NUMBER(if applicable)	PORTION NUMBER
1	Erf 528, Ceres	
2	Erf 1002, Ceres	
3	Erf 5137, Ceres	
4	Erf 1489, Ceres	
5	Erf 1 (Prince Alfred Hamlet)	
6	Farm 323	2
7	Farm 316	1
8	Farm 323	1
9	Farm 316	
10	Erf 1884	
11	Erf 4963	
12	Erf 207	
13	Erf 5018	
14	Erf 8027	

NO	FARM / ERF NUMBER(if applicable)	PORTION NUMBER
15	Farm 371	35
16	Farm 371	14
17	Farm 371	
18	Farm 375	1
19	Farm 376	RE
20	Farm 375	
21	Farm 375	2
22	Farm 374	
23	Farm 423	
24	Farm 374	1
25	Farm 372	97
26	Farm 323	21
27	Farm 323	
28	Farm 1886	



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Scale:	1:140 000 @ A4
Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	05/05/2021
Compiled by:	DUSS
Project No:	532062
Fig No:	7-3

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CERES – WITZENBERG POWERLINE

CADASTRAL MAP

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\532062_Fig3-2_Witzenberg BA_CadastralMap_A4L_20210505.mxd

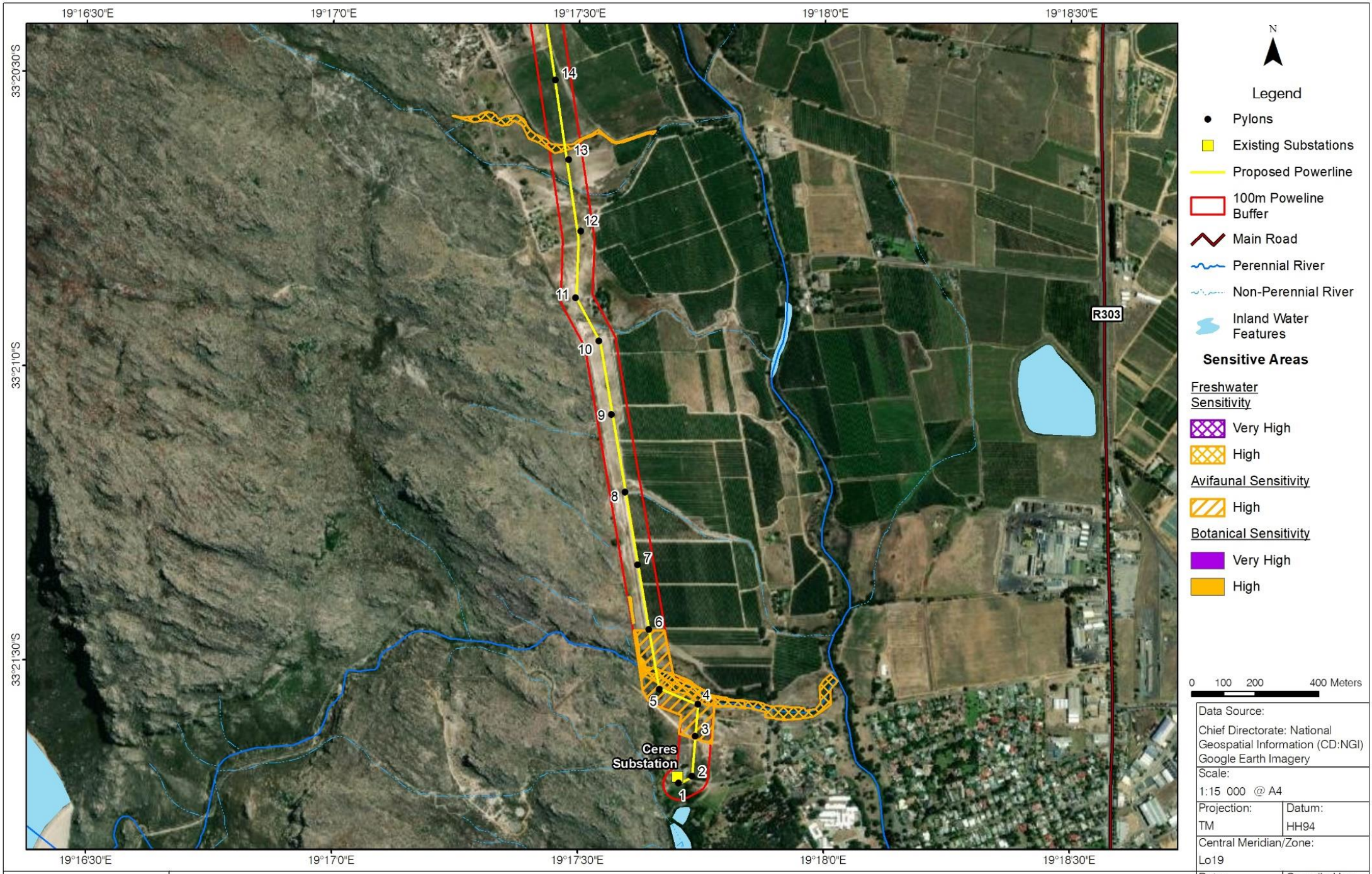
Revision: A Date: 07 06 2021

7.16 Preliminary technical specification of the overhead transmission and distribution:

- Length: **~17km**
- Tower parameters
  - Number and types of towers: **92 Pylons, Combination of Steel monopoles and braced steel poles.**
  - Tower spacing (mean and maximum): **spans will be between ~100 m and ~400 m.**
  - Tower height (lowest, mean and height): **Steel monopoles: ~15m**
    Braced steel poles: ~20m
    Mean height: ~17m
  - Conductor attachment height (mean): **15.3m**
  - Minimum ground clearance: **6.3 m**

7.2 Sub-section 2: Development footprint site map

This sub-section must include a map of the site sensitivity overlaid with the preliminary infrastructure layout. The sensitivity map must be prepared from the national web based environmental screening tool, when available for compulsory use at: https://screening.environment.gov.za/screeningtool. The sensitivity map shall identify the nature of each sensitive feature e.g. raptor nest, threatened plant species, archaeological site, etc. Sensitivity maps shall identify features both within the planned working area and any known sensitive features in the surrounding landscape. The overhead transmission and distribution profile shall be illustrated at an appropriate resolution to enable fine scale interrogation. It is recommended that <20 km of overhead transmission and distributionlength is illustrated per page in A3 landscape format. Where considered appropriate, photographs of sensitive features in the context of tower positions shall be used.



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Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	10/05/2021
Compiled by:	BRCH
Project No:	532062
Fig No:	7-4

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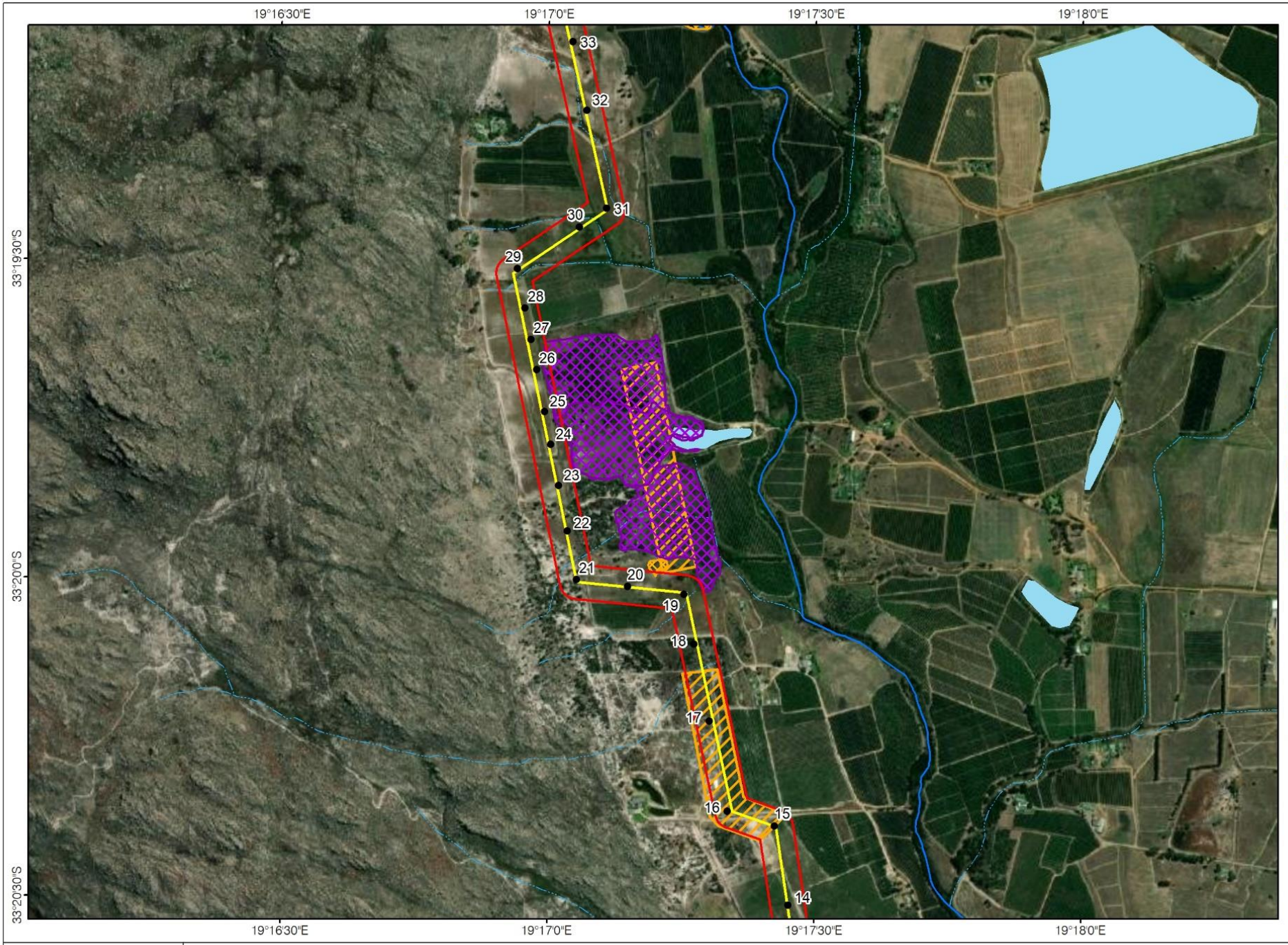
CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 1-14

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\BiophysicalSensitivity\532062_F7-1_Witzenberg BA_BiophysicalSensitivityMapsP1-14_A4L_202010512.mxd

Revision: A Date: 24 05 2021



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Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	10/05/2021
Compiled by:	BRCH
Project No:	532062
Fig No:	7-5

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CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 14-33

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\BiophysicalSensitivity\532062_F7-2_Witzenberg BA_BiophysicalSensitivityMapsP14-33_A4L_202010512.mxd

Revision: A Date: 24 05 2021

N

Legend

- Pylons
- Proposed Powerline
- 100m Poweline Buffer
- Perennial River
- Non-Perennial River
- Inland Water Features

Sensitive Areas

Freshwater Sensitivity
- Very High
- High

Avifaunal Sensitivity
- High

Botanical Sensitivity
- Very High
- High

0 100 200 400 Meters

Data Source: Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery	
Scale: 1:15 000 @ A4	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo19	
Date: 10/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-6

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CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 33-47

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\BiophysicalSensitivity\532062_F7-3_Witzenberg BA_BiophysicalSensitivityMapsP33-47_A4L_202010512.mxd

Revision: A Date: 24 05 2021

Data Source:	Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery
Scale:	1:15 000 @ A4
Projection: TM	Datum: HH94
Central Meridian/Zone:	Lo19
Date: 10/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-7

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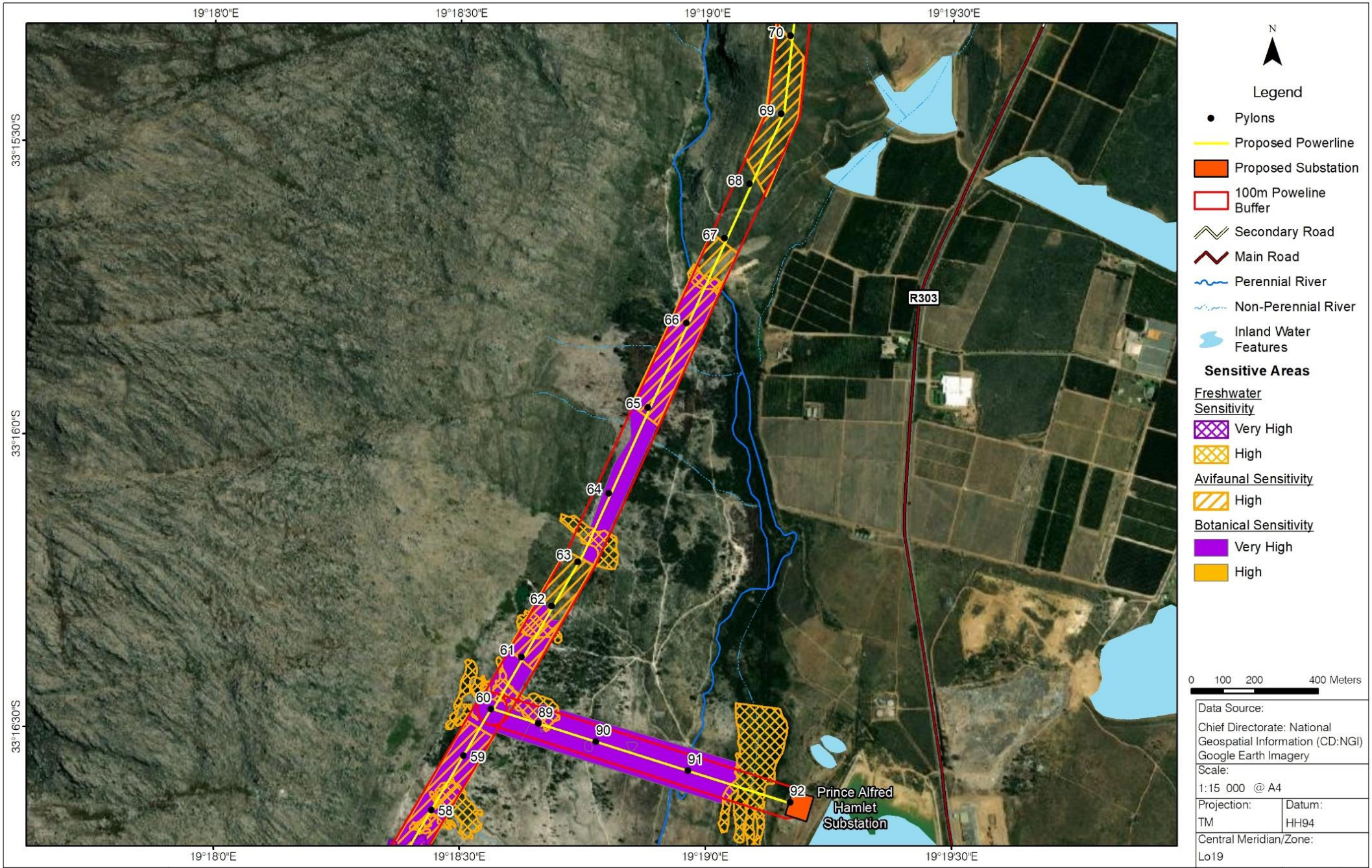
CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 47-60 AND 89-92

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\BiophysicalSensitivity\532062_F7-4_Witzenberg BA_BiophysicalSensitivityMapsP37-60_89-92_A4L_202010512.mxd

Revision: A Date: 24 05 2021



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Scale:	1:15 000 @ A4
Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19

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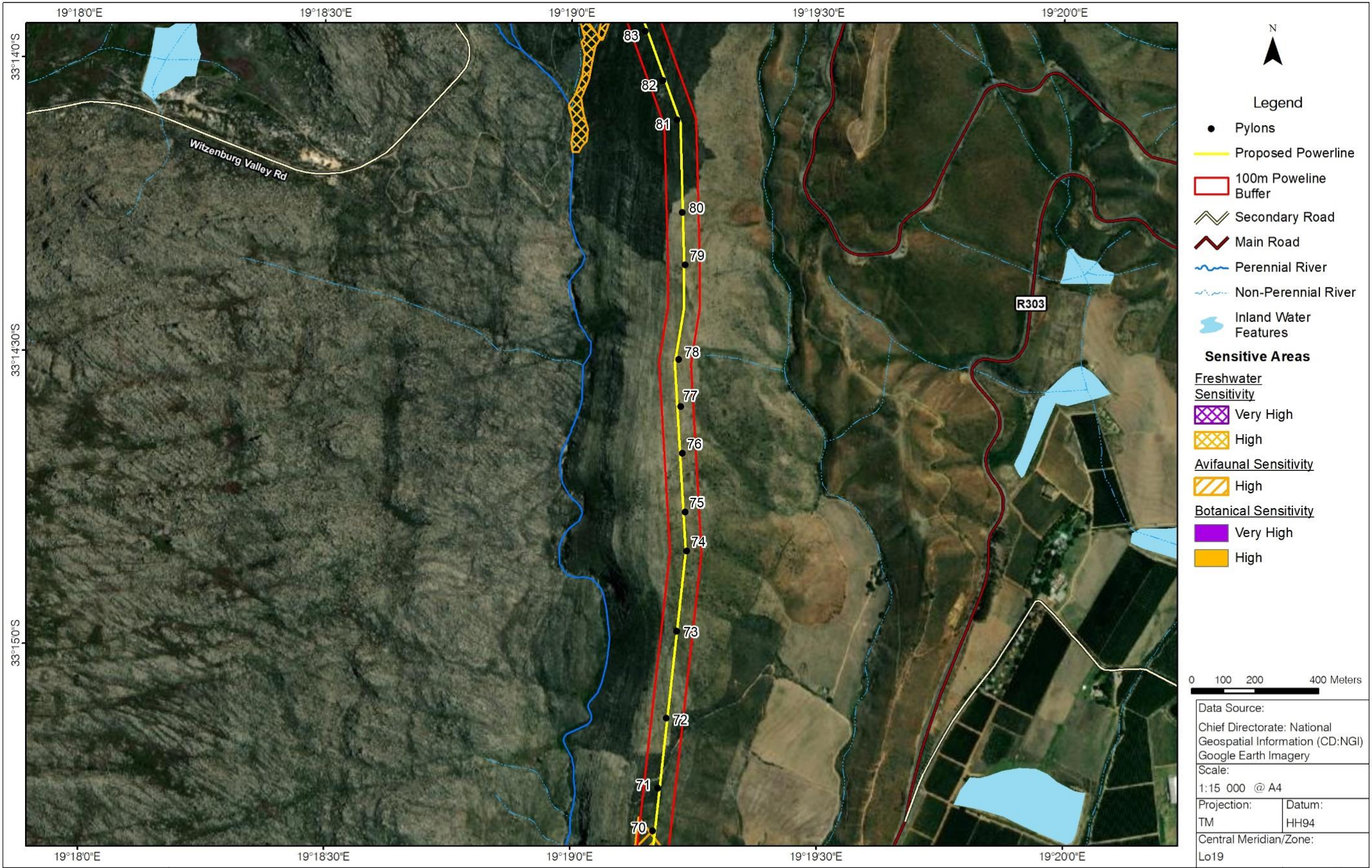
CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 58-70 AND 89-92

Date: 10/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-8

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\BiophysicalSensitivity\532062_F7-5_Witzenberg BA_BiophysicalSensitivityMapsP58-70_89-92_A4L_202010512.mxd

Revision: A Date: 24 05 2021



CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 70-83

Data Source: Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery	
Scale: 1:15 000 @ A4	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo19	
Date: 10/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-9

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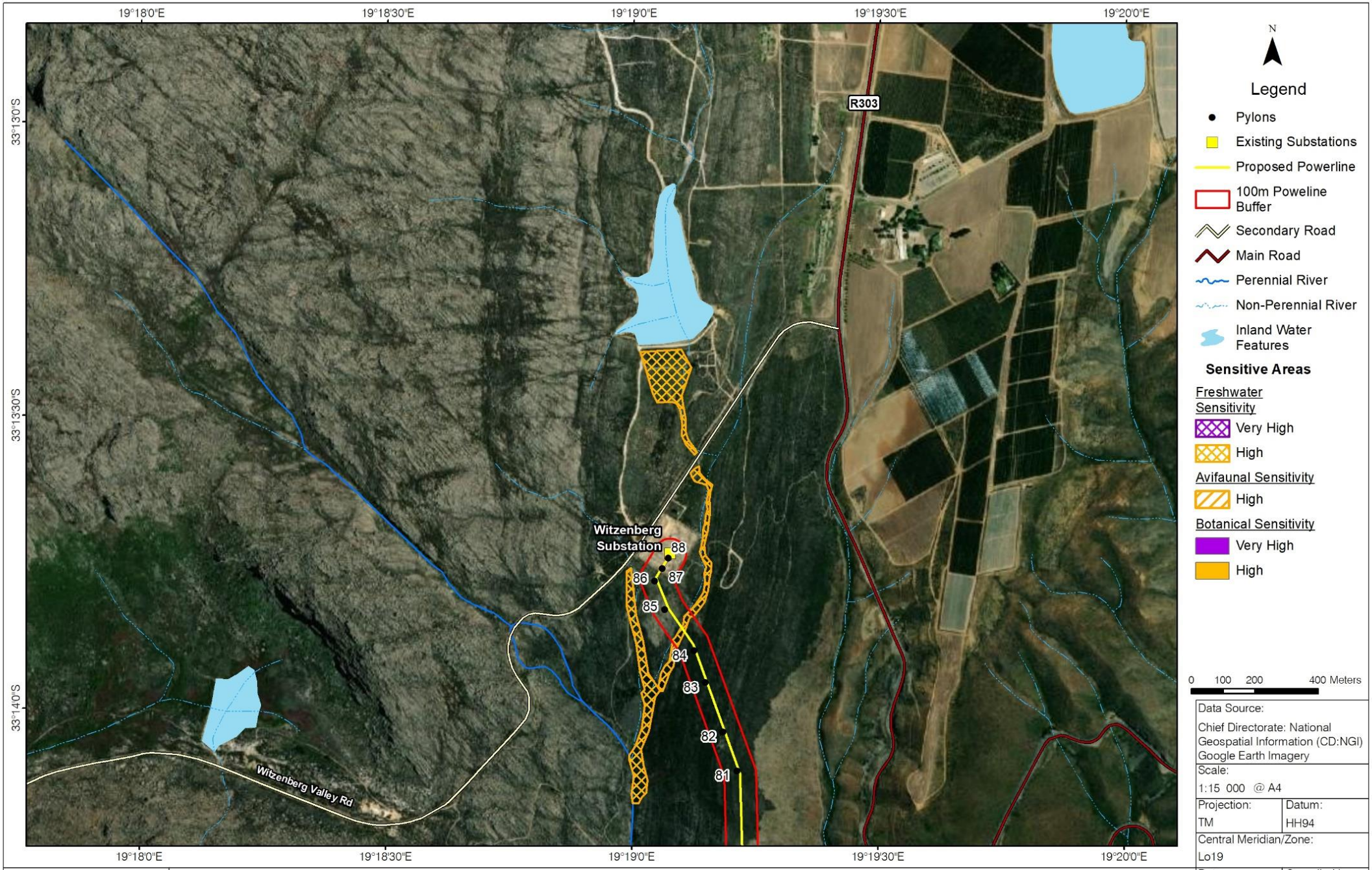
Revision: A Date: 24 05 2021



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Projection:	TM
Datum:	HH94
Central Meridian/Zone:	Lo19
Date:	10/05/2021
Compiled by:	BRCH
Project No:	532062
Fig No:	7-10

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CERES – WITZENBERG POWERLINE

BIOPHYSICAL SENSITIVITY MAPS: PYLONS 81-88

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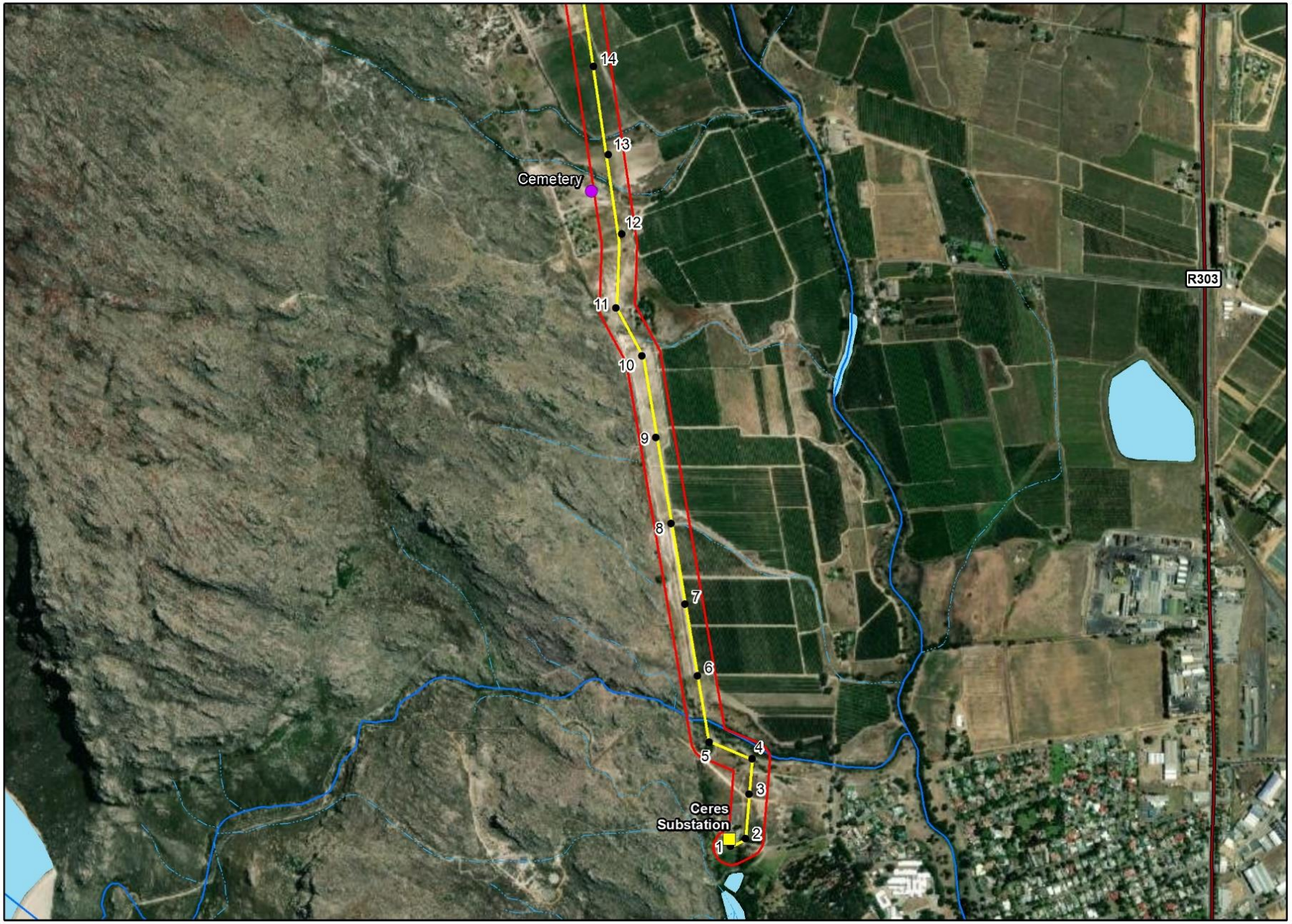
Revision: A Date: 28 05 2021



N

Legend

- Heritage Sensitivity
- Existing Substations
- Pylons
- Proposed Powerline
- 100m Poweline Buffer
- Main Road
- Perennial River
- Non-Perennial River
- Inland Water Features

0 100 200 400 Meters

Data Source: Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery	
Scale: 1:15 000 @ A4	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo19	
Date: 10/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-11

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CERES – WITZENBERG POWERLINE

CULTURAL SENSITIVITY MAPS: PYLONS 1-14

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\CulturalSensitivity\532062_Fig7-8_Witzenberg BA_CultralSensitivityMapsP1-14_A4L_202010510.mxd

Revision: A Date: 13 05 2021

N

Legend

- Heritage Sensitivity
- Visual Sensitivity
- Pylons
- Proposed Powerline
- 100m Poweline Buffer
- Perennial River
- Non-Perennial River
- Inland Water Features

0 100 200 400 Meters

Data Source: Chief Directorate: National Geospatial Information (CD:NGI) Google Earth Imagery	
Scale: 1:15 000 @ A4	
Projection: TM	Datum: HH94
Central Meridian/Zone: Lo19	
Date: 13/05/2021	Compiled by: BRCH
Project No: 532062	Fig No: 7-12

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CERES – WITZENBERG POWERLINE

CULTURAL SENSITIVITY MAPS: PYLONS 33-47

Path: \\CTN-SVR0.ctn.za.srk.ad\vol1\Root\Proj\New Proj\532062_Witzenberg BA\8GIS\GISPROJ\MXD\CulturalSensitivity\532062_Fig7-9_Witzenberg BA_CultralSensitivityMapsP33-47_A4L_202010513.mxd

Revision: A Date: 13 05 2021

7.3 Sub-section 3: Declaration

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

Signature Proponent/applicant/ holder of EA

Date:

29 April 2024

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 incompleteshould a signed copy of Part B: Section 2 not be submitted. Once approved, Part B: Section 2forms part of the EMPr for the development and the EMPr becomes legally binding to the new EA holder.

PART C

8 SITE SPECIFIC ENVIRONMENTAL ATTRIBUTES

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

If Part C is applicable to the development as authorised in the EA, it is required to be submitted to the CA together with the BAR or EIAR, for consideration of, and decision on, the application for EA. The information in this section must be prepared by an EAP and the nameand 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.

Impact Management Outcomes

Impact	Impact Management Outcome
Agriculture	Avoid the loss of arable land due to pylon placement.
Freshwater Ecology	Preservation of freshwater features during construction and operations.
Air Quality	Avoid dust generation and associated nuisance to local communities.
Botanical	Avoid the loss of Species of Conservation Concern (SCC).
	Avoid disturbance of areas beyond the development footprint.
Avifaunal	Prevent the displacement and mortality of avifauna.
Socio-economic	Enhance economic benefits to the local community and economy
Heritage	Avoid loss or damage to palaeontological and archaeological resources
Visual	Prevent visual intrusion, as far as possible

Site Specific Management Actions

Table 8-1: Site specific management action

Aspect	ID	Mitigation measure / action	Responsible Party	Implementation Timeframe	Monitoring Method and Performance Indicator
Authorisations	1.	Ensure that all required licences, permits and agreements have been obtained before the start of construction.	• Eskom	• Before construction activities commence	• Check required licences, permits and authorisations
	2.	*Obtain landowner approval on the location of the laydown areas, use of access roads and servitude prior to construction.*	• *Eskom*	• *Prior to construction*	• *Review landowner agreements.*
Environmental Compliance	3.	Finalise the EMPr (if required) to include all conditions of authorisation imposed by DFFE and DWS, recommendations of specialists for the final design (see 8 below), and any other permitting authorities.	• Eskom	• Once project authorised	• Check amended EMPr with all licence / permit conditions
	4.	Include the EMPr in all tender documents to ensure that sufficient resources are allocated to environmental management by the Contractor.	• Eskom	• Prior to call for tenders	• Check tender documents and contract
	5.	Plan and make adequate financial provision for rehabilitation and restoration activities and clearly allocate timing and responsibility for environmental rehabilitation.	• Eskom	• Before construction commences	• Check availability of plan
Final Infrastructure Design	6.	Use existing access roads only.	• Eskom	• During detailed design	• Check final design
	7.	Locate pylon structure 8 at least 10m from the edge of the trench (see 7 below).	• Eskom	• During detailed design	• Check final design • Freshwater specialist sign-off
	8.	Get freshwater ecology, botanical, avifaunal and heritage specialist sign-off of any changes to the final infrastructure plan (layout or structures) as presented in the BAR.	• Eskom	• During detailed design	• Check specialists sign off
	9.	Minimise potential loss of arable land by micro-siting pylon locations away from cultivated areas.	• Eskom	• During detailed design	• Check final design
	10.	Do not install lights on pylons.	• Eskom • Contractor	• During detailed design	• Check final design
	11.	Install pylons so that they do not protrude and "silhouette" above Witzenberg Ridge.	• Eskom • Contractor	• During detailed design	• Check final design
	12.	Construct terrace / foundation walls using materials that blend in with the surroundings (e.g. sandstone stone-packing, riverstone gabions).	• Contractor	• During detailed design	• Check final design
	13.	*Implement design modifications or bird-deterrent features to the facility to prevent the use of infrastructure components as perching or roosting substrates by birds.*	• *Contractor*	• *During detailed design*	• *Contractor and evidence of nests*
Employment and Procurement	14.	Set targets for the use of local labour based on the needs of the proponent and the availability of existing skills and people that are willing to undergo training.	• Eskom	• Prior to the call for tenders	• Check record of employment profiles and target calculations
	15.	Specify labour-intensive rather than capital-intensive work methods wherever possible.	• Eskom	• Prior to the call for tenders	• Check call for tenders
	16.	Ensure that Contractors from outside the local area that tender for work meet the required targets for local employment.	• Eskom	• During tender evaluation	• Check call for tenders
	17.	Comply with the provisions outlined in the Eskom Commercial Supply Chain Procedure.	• Eskom	• Award of contracts	• Check that the provisions outlined in the Eskom Commercial Supply Chain

					Procedure have been complied with during contractor appointments
Construction Camp Establishment	18.	Inform landowners before construction activities move onto their property.	• Contractor	• Throughout construction	• Check correspondence with landowners
	19.	Locate the construction camps within the 100 m powerline corridor.	• Contractor	• Start of construction in new area	• Check that the construction camps are located within the 100 m powerline corridor
	20.	Receive approval from *the ECO* should any construction camps, laydown areas or other areas associated with the project lie outside of the 100 m corridor.	• Contractor	• Start of construction in new area	• Check approval from Botanical and Aquatic Specialist.
	21.	Locate and demarcated lay-down areas at least 20 m from all watercourses (or if this is not possible, in consultation with the ECO).	• Contractor	• Start of construction in new area	• Check laydown areas are at least 20m from all watercourses or approved by ECO • Demarcation of the lay-down areas
	22.	Consolidate the footprint of construction camps to a functional minimum.	• Contractor	• Throughout construction	• Check construction camps footprints
	23.	Keep construction sites tidy and confine all activities, material and machinery to as small an area as possible.	• Contractor	• Throughout construction	• Check construction camps footprints • Check that the construction sites are tidy.
Site Access	24.	Establishment of new tracks or roads is prohibited.	• Contractors	• Throughout construction	• Check for new tracks or roads
	25.	Access location of Pylons 67 and 88 by helicopter.	• Contractor	• Throughout construction	• Check for new tracks to Pylons 67 to 88.
Ablutions	26.	Provide ablution facilities (i.e. chemical toilets) at construction camps and active work areas for staff at a ratio of at least 1 toilet per 25 workers.	• Contractor	• Throughout construction	• Check that ablution facilities provided at the minimum ratio
Fire Protection	27.	Prohibit fires on site.	• Contractor	• Throughout construction	• Check for evidence of fires
	28.	Equip all fuel stores and waste storage areas with fire extinguishers.	• Contractor	• Throughout construction	• Check equipment is available
Safety and Security	29.	Establish emergency procedures (in relation to fire, spills, contamination of the ground, accidents to employees, use of hazardous substances, etc.).	• Contractor	• Before construction activities commence	• Check emergency procedures
	30.	Display emergency procedures conspicuously at all appropriate locations.	• Contractor	• Throughout construction	• Check emergency procedures displayed
	31.	Advise the ECO of any emergencies on site, together with a record of action taken	• Contractor	• Throughout construction	• Check record of incidents
	32.	Secure construction camps and restrict unauthorized access to fuels and any other hazardous substances.	• Contractor	• Throughout construction	• Check construction camp is secured
Hazardous Materials	33.	Locate hazardous material storage facilities as far as practically possible from watercourses (no closer than 100 m).	• Contractor	• Throughout construction	• Check location of hazardous material storage facilities

Management	34.	Implement procedures for the safe transport, handling and storage of potential pollutants.	• Contractor	• Throughout construction	• Check implementation of procedures for the safe transport, handling and storage of potential pollutants
	35.	Avoid unnecessary use and transport of hazardous substances.	• Contractor	• Throughout construction	• Check use and transport of hazardous substances and incidences of spills
	36.	Notify the relevant authorities (including DEA&DP) of a major environmental pollution event such as a significant spill or leak of hazardous substances (e.g. petrol, diesel, etc.), in accordance with section 30 of the NEMA.	• Contractor	• Throughout construction	• Major spills recorded and reported to relevant authorities
Refuelling and Maintenance	37.	Conduct on-site refuelling and emergency repairs if absolutely essential with appropriate impermeable ground cover (e.g. use drip trays) further than 50 m from any watercourse.	• Contractor	• Throughout construction	• Check on-site refuelling and emergency repairs take place more than 50 m from any watercourse
Waste Management	38.	Clean-up and dispose of any material spilled from trucks during transport to or from the site.	• Contractor	• Throughout construction	• Check spills cleaned
	39.	Do not allow any burning or burying of waste on site.	• Contractor	• Throughout construction	• Check no waste burnt or buried on site
	40.	*Collect green waste (i.e. organic waste including vegetation cuttings) separately from general waste and disposed of at an approved municipal or private green waste management facility, where possible*	• *Contractor*	• *Throughout construction*	• *Check green waste bins on site and or waste receipts.*
Cement Work Management	41.	Favour Ready-Mix over on-site cement batching.	• Contractor	• Throughout construction	• Check that Ready-Mix use is favoured wherever possible
	42.	Prohibit on-site cleaning of Ready-Mix truck delivery chutes.	• Contractor	• Throughout construction	• Check for evidence of on-site cleaning of Ready-Mix truck delivery chutes
	43.	Mix and batch cement in temporary removable bunding at least 20 m from a watercourse and within the boundaries of the development footprint or construction camp (where unavoidable) *to minimize spillage in natural areas.).*	• Contractor	• Throughout construction	• Check cement batching areas bunded outside of any watercourses
	44.	Physically remove any remains of concrete, either solid, or liquid, immediately after batching activities and dispose at licensed disposal facilities.	• Contractor	• Throughout construction	• Check for evidence of any remains of concrete
Effluent Management	45.	Clean vehicles and equipment off-site or in dedicated impermeable areas only.	• Contractor	• Throughout construction	• Check vehicles and equipment cleaned in appropriate areas only
Stormwater management	46.	Use berms and stormwater drainage systems to prevent surface run-off from entering site excavations.	• Contractor	• Throughout construction	• Check build-up of runoff in excavations
	47.	Stabilize exposed slopes within 30 m of any watercourse as soon as these are created (e.g., at stockpiles and cut and fill areas) to prevent sedimentation.	• Contractor	• Throughout construction	• Check that exposed slopes within 30m of any watercourse are stabilised
	48.	Contain contaminated stormwater from work areas and excavations and dispose as effluent	• Contractor	• Throughout construction	• Check that contaminated stormwater is contained and disposed as effluent.

Erosion Control	49.	Install cut-off trenches with silt traps around work areas within 50 m of any watercourse.	• Contractor	• Throughout construction	• Check cut-off trenches installed at active work areas during the wet season (May-Sept)
	50.	Cover trucks transporting loose material to or from site with tarpaulins, plastic or canvas.	• Contractor	• Throughout construction	• Check that trucks transporting loose material are covered.
	51.	Sweep roads at site entrance and exit points where the is a visible accumulation of loose material.	• Contractor	• Throughout construction	• Check that roads at site entrances are well maintained
Protection of Flora	52.	Designate areas outside the development footprint as no-go areas.	• Contractor	• Throughout construction	• Check for evidence of offsite disturbances
	53.	*Appoint an ECO undertake a site survey (between tower 60 and Tower 92) to confirm and map the location of Leucadendron chamelaea) less than 6 months before construction commences.*	• *Contractor*	• *Prior to construction*	• *Check that Witsenberg conebush subpopulations were mapped prior to construction*
	54.	*Ensure oversight by the ECO during the construction of Pylon 60 to 92.*	• *Contractor*	• *Prior to construction*	• *Check record of ECO reports.*
	55.	Demarcate the Witsenberg conebush subpopulations near Pylon 89 and 90 as no-go areas.	• Contractor	• Throughout construction	• Check that Witsenberg conebush subpopulations are demarcated
	56.	Minimise the site footprints as far as possible particularly at Pylons 69 to 86 which are located in a Protected Area.	• Contractor	• Throughout construction	• Check construction camps footprints
	57.	Clear tall vegetation (including pines) manually.	• Contractor	• Throughout construction	• None
	58.	Clear indigenous vegetation, for stringing purposes, by means of cutting surface material taller than 1.5 m only.	• Contractor	• Throughout construction	• Check that clearing of only areas of indigenous vegetation is conducted where required (i.e. no brush cutting the whole transmission line route is taking place)
	59.	Remove cuttings of alien vegetation from the site.	• Contractor	• Following the clearing of alien vegetation	• Check that cuttings of alien vegetation have been removed from the site
	60.	Apply herbicides to cleared stands of alien plants to prevent re-sprouting.	• Contractor	• Following the clearing of alien vegetation	• Check records of herbicide applications
	61.	Remove cut vegetation to at least 50 m from any watercourse and outside of the 1: 100 year floodline of the Koekedou River.	• Contractor	• Throughout construction	• Check that cleared vegetation stockpiles are more than 50 m away from watercourses and away from the 1:100 year floodline of the Koekedou River.
	62.	*Remove stockpiled material from each construction site to avoid smothering and killing the vegetation.*	• *Contractor*	• *Throughout construction*	• *Check evidence of stockpiles*
Protection of Watercourses	63.	Demarcate a 25 m buffer on the western edge of wetlands as a no-go area for personnel, vehicles, and construction activities.	• Contractor	• Start of construction in new area	• Demarcation of watercourses.
	64.	String conductors by hand when traversing watercourses.	• Contractor	• During conductor stringing	• Check for evidence of mechanical stringing in watercourses

	65.	*Implement freshwater ecology mitigation measures as stipulated and when working around farm dams.*	• *Contractor*	• *Throughout construction*	• Check implementation of freshwater ecology mitigation measures throughout construction.
	66.	*Divert any runoff from impermeable surfaces away from natural and man-made watercourses to limit erosion and deposition of sediment into watercourses.*	• *Contractor*	• *Throughout construction*	• Check that runoff from impermeable surfaces are not diverted directly into watercourses.
	67.	*Treat and demarcate the entire area between Pylons 23 and 25 with a minimum 25 m buffer zone (including the High Importance wetland to the North and South of this Very High Importance wetland) as a no-go area.*	• *Contractor*	• *Throughout construction*	• *Check that the entire area between Pylon 23 and 25 with a minimum 25 m buffer zone has been treated and demarcated as a no-go zone.*
	68.	*Appoint a botanical or wetland specialist to assess sections near watercourses of Very High Importance and identify areas that require rehabilitation.*	• *Contractor*	• *Post-construction*	• *Check that a botanical or wetland specialist has been appointed and has assessed the area near watercourses of Very High Importance.*
	69.	*Prohibit the development of new tracks, access paths and the widening of existing tracks along the transmission lines in the area between Pylons 23 and 25.*	• *Contractor*	• *Throughout construction*	• *Check that there is no evidence of widening of existing roads or development of new roads.*
	70.	*Fence off the western edge of the two hillslope seep wetlands located between Pylons 56 and 58 and the extensive wetland between Pylons 19 and 27, incorporating a 10 m buffer, and strictly manage the entire wetlands as no-go areas during construction.*	• *Contractor*	• *Throughout construction*	• *Check that the necessary areas have been demarcated and managed as no-go areas.*
Traffic Management	71.	Stagger deliveries if possible.	• Contractor	• Throughout construction	• Check for complaints from other road users
	72.	Schedule transportation and storage of construction materials, stringing and installation *activities between support poles 4 - 6, 13 - 14, 19 - 27, 35 - 38, 56 - 64, 66 - 67, 84 - 85 and 91 - 92 outside* of the wet season unless approved by the ECO.	• Contractor	• Throughout construction	• Check the project schedule. • Approval received from the ECO.
Protection of Archaeological and Paleontological Resources	73.	Prohibit construction activities to the west of the powerline centreline between Pylons 12 and 13.	• Contractor	• Throughout construction	• Check no activity is taking place to the west of the powerline centreline between Pylons 12 and 13
	74.	Demarcate the ruined dwelling as a no-go area during construction of Pylon 38 and hoisting the line into position.	• Contractor	• Throughout construction	• Check demarcation is in place
	75.	Fence the remains of the building and the foundations / low mound and demarcate as a no-go area during the construction of Pylon 35.	• Contractor	• Throughout construction	• Check demarcation is in place
	76.	Demarcate the large rocky outcrop ~30m to the south west of Pylon 45 and the associated thin scatter of LSA silcrete flakes and pottery as no-go areas during the construction of Pylon 45.	• Contractor	• Throughout construction	• Check demarcation is in place
Visual Mitigation	77.	Consolidate the footprint of the construction camp(s) to a functional minimum. Screen the yard with materials that blend into the surrounding area.	• Contractor	• Throughout construction	• Check that the yard is screened with shadecloth.
	78.	Do not prune vegetation adjacent to the roads.	• Contractor	• Throughout construction	• Check vegetation adjacent to the access roads.

	79.	Be sensitive towards the use of glass or material with a high reflectivity which may cause glare and increase visual impacts.	• Eskom • Contractor	• Throughout construction	• Check the quantity of glass or high reflectivity materials used on site.
	80.	Use low-impact fencing of appropriate colour, such as diamond wire-mesh fencing which is less visually intrusive when viewed from a distance. Palisade fencing and other solid fence structures should be avoided.	• Contractor	• Throughout construction	• Check the type of fencing installed on site.
	81.	Consider using excess excavated material to construct a low (< 1 m) vegetated berm around the substation site to screen the bulk of the substation.	• Contractor	• Throughout construction	• Check if a berm has been established around the Prince Alfred Substation site.
Noise Mitigation	82.	*Ensure noise levels do not exceed 70 dB(A) at the site's boundary*	• *Contractor*	• *Throughout construction*	• *Check noise monitoring readings.*
Closure and Rehabilitation	83.	*Ensure that the ECO assesses all section near watercourses and identifies areas that require rehabilitation*.	• Contractor	• Site closure	• *Check areas have been identified by the ECO*
	84.	Rehabilitate identified areas (including manual measures) to address compaction and erosion through reshaping and/ or scarification.	• Contractor	• Site closure	• Check that all areas identified by the specialists are rehabilitated.
	85.	Remove all construction equipment, vehicles, waste and surplus materials, site office facilities, temporary fencing and other items from the site.	• Contractor	• Site closure	• Check all equipment and materials removed from site
	86.	Clean up and remove any spills and contaminated soil in the appropriate manner.	• Contractor	• Site closure	• Check contaminated areas addressed
	87.	Do no bury discarded materials on site or on any other land not designated for this purpose.	• Contractor	• Site closure	• Check for evidence of burying on site
	88.	Reinstate (rehabilitate) agricultural land following construction.	• Contractor	• Site closure	• Check that agricultural land has been rehabilitated
	89.	Rehabilitate each site by revegetating cleared areas and ripping and revegetating compacted areas with locally indigenous vegetation.	• Contractor	• Site closure	• Check that all areas (other than access roads) are rehabilitated

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: EAP CVs

Kelly Armstrong

Environmental Consultant

Profession	Environmental Consultant
Education	BSocSc Hons (Environmental & Geographical Studies), University of Cape Town, 2017
Registrations/ Affiliations	Reg. EAP (2019/1167) (EAPASA); IAIAsa
Awards	Not Applicable

Specialisation

Environmental Impact Assessment; Environmental Management Planning, Environmental Control Officer; Stakeholder Engagement; Water Use Authorisations; Atmospheric Emission Licences; Waste Management License audits; Visual Impact Assessment; Glare Modelling, Shadow Flicker Modelling.

Expertise

Kelly has five years' experience in the ESG sector. Her core expertise includes:

- coordinating environmental impact assessment processes across a range of sectors;
- compiling environmental management programmes for projects;
- auditing compliance with environmental management programmes;
- managing stakeholder engagement processes; and
- managing visual impact assessments, glint and glare modelling and shadow flicker modelling.

Employment

2019 - present	SRK Consulting (Pty) Ltd, Environmental Consultant
2018 - 2019	Terramanzi Group, Junior Environmental Consultant

Publications

1. Keeping an Eye on PV Glint and Glare. *Multiple publications.* August 2022.
2. Complexity meets uncertainty in EIAs. *Multiple publications.* September 2023

Languages

English – read, write, speak (fluent)

Kelly Armstrong
Environmental Consultant

Environmental Impact Assessments (EIA)

- Mainstream Renewable Power South Africa (Pty) Ltd, 23 EIA processes for Hanover WEF and SEF Cluster, Hanover, Northern Cape, 2022 – ongoing, R3 300 000.
- Mainstream Renewable Power South Africa (Pty) Ltd, 19 EIA processes for the Stilfontein Cluster, Stilfontein, North West Province, 2021 – ongoing, R2 800 000.
- Oceana Group Limited, BA for Oceana's 10 MW SPV Facility in St Helena Bay, Western Cape, 2021 – 2023, R400 000.
- Transnet SOC Ltd, Scoping and EIA for the Increase of Manganese Handling and Storage at the Multi-purpose Terminal, Port of Saldanha, Western Cape, 2021 - 2022, R1 125 000.
- City of Cape Town, EIA for the proposed upgrades of Cape Flats Wastewater Treatment Works, Western Cape, 2019 – 2021, R400 000.
- Eskom Holdings SOC Ltd, Screening Study for 765 kV Kappa – Sterrekus Powerline, Western Cape, 2020 – 2022, R5 000 000.
- Nadeson Consulting Engineers, Middelpos Stormwater Upgrades EA Amendment, Saldanha Bay, Western Cape, 2020, R25 000.
- Eskom Holdings SOC Ltd, Basic Assessment (BA) for the Single Circuit Powerline from Ceres to Witzenberg Substations, Witzenberg Local Municipality, Western Cape, 2020 – 2021, R435 000.
- Nadeson Consulting Engineers, BA for Middelpos Stormwater Upgrades, Saldanha Bay, Western Cape, 2019 – 2020, R250 000.
- Human Settlements Holistic Services, Charlesville Low Cost Housing BA, Cape Town, Western Cape, 2019 – 2021, R150 000.
- Paarl Vallei Developments, BA for Paarl Valleij Residential Development, Western Cape, 2019.
- Copperton Wind Farm, Copperton Wind Energy Facility Environmental Management Programme (EMPr) Amendment, Northern Cape, 2019.
- Val de Vie Investments, Substantive Part 2 Amendment of Pearl Valley Phase II Environmental Authorisation (EA), Western Cape, 2018 – 2019.
- Val de Vie Investments, Substantive Part 2 Amendment of Levendal Development EA, Western Cape, 2018 - 2019
- Watchman Properties, BA for Vendome Estate Development, Western Cape, 2018 – 2019.
- Val de Vie Investments, BA for River Farm Estate Development, Western Cape, 2018 – 2019.
- G7 Renewable Energies, Substantive Amendment of Brandvalley Wind Energy Facility EA, Western Cape, 2018.
- Haga Haga Wind Farm, EIA for Haga Haga Wind Energy Facility, Eastern Cape, 2018.
- Haga Haga Wind Farm, BA for Haga Haga Overhead Powerline, Eastern Cape, 2018.

Environmental Management Programme (EMPr)

- Victoria & Alfred Waterfront (Pty) Ltd, Environmental Specification for V&A Revetment Upgrades Phase 2, Granger Bay, March 2021, R35 000
- Victoria & Alfred Waterfront (Pty) Ltd, Environmental Specification for V&A Revetment Upgrades Phase 1, Granger Bay, August 2020, R35 000

Kelly Armstrong
Environmental Consultant

- Zutari (Pty) Ltd, Specification for the Environmental Management for the Decommissioning of the Athlone Power Station, 2020, R50 000.
- Water and Wastewater Engineering (Pty) Ltd, for the City of Cape Town, Cape Flats Aquifer Recharge Water Treatment Plant (WTP) Environmental Method Statement, Western Cape, 2020, R30 000.
- KSS Holdings (Pty) Ltd, EMPr for concrete batching for Karusa and Soetwater Wind Farms, December 2019, R10 000.
- Saint-Gobain Gyproc, Update Maskam Mine EMPr, Vanrhynsdorp, Western Cape, 2019, R200 000.

Environmental Control Officer (ECO)

- Victoria & Alfred Waterfront (Pty) Ltd, V&A Revetment Upgrades, ECO during phase two of the repair works on the Revetments, 2021, R35 000.
- Lions Hill Development Company, The Ridge Residential Development, ECO for Construction Phase, 2020 – 2022, R75 000.
- Project Assignments (Pty) Ltd, Reactor Refurbishments at the Cape Flats and Mitchells Plain WWTW, ECO during the refurbishment, 2020 - 2021, R145 000
- Victoria & Alfred Waterfront (Pty) Ltd, V&A Revetment Upgrades, ECO during repair works on the Revetments, 2020, R35 000.
- Water & Wastewater Engineering (Pty) Ltd, Athlone WWTW Blower House Complex Demolition ECO, ECO during the demolition works, 2020 – 2021, R220 000.
- Coega Development Corporation (on behalf of NDPW), St Helena Bay Fishing Harbour ECO during maintenance dredging. 2019 – 2021, R70 000.
- Coega Development Corporation (on behalf of NDPW), Hout Bay Fishing Harbour ECO during maintenance dredging. 2019 – 2020, R75 000.
- Coega Development Corporation (on behalf of NDPW), Gordon's Bay Fishing Harbour ECO during maintenance dredging. 2019 – 2020, R75 000.
- Coega Development Corporation (on behalf of NDPW), Lambert's Bay Fisheries Harbour ECO during maintenance dredging. 2019 – 2021, R70 000.
- Department of Agriculture, Forestry and Fisheries (DAFF), ECO for operational phase Aquaculture Development Zone, Saldanha Bay. 2019 – 2020, R200 000.
- Evergreen Developments, ECO for construction phase of Evergreen Lifestyle Estate, Paarl, 2018 – 2019.
- Val de Vie Investments, ECO for construction phase of River Club Residential Precinct, Paarl, 2018 – 2019.
- Val de Vie Investments, ECO for construction phase of Pearl Valley Phase II Estate, Paarl, 2018 – 2019.
- Copperton Wind Farm, ECO for construction phase of Copperton Wind Farm, Northern Cape, 2018 – 2019.

Environmental Compliance Audits

- Astron Energy (Pty) Ltd, Waste Management Licence External Compliance Audit: Astron Energy, Milnerton Refinery, 2022, R75 000.
- Tronox Mineral Sands (Pty) Ltd, Fines Dam 6 Environmental Compliance Audits, January 2020, R100 000.
- Astron Energy, EA Audits for Various Astron Energy Projects, Milnerton, Western Cape, 2019, R215 000.

Kelly Armstrong
Environmental Consultant

Atmospheric Emission Licences (AEL)

- Tronox Namakwa Sands, AEL Renewal for the Tronox Smelter, Saldanha, Western Cape, 2023, R122 000.
- Transnet, AEL Variation for Iron Ore Terminal, Port of Saldanha, Western Cape, 2019, R40 000.

Water Use Licences (WUL)

- Eskom Holdings SOC Ltd, BA for the Single Circuit Powerline from Ceres to Witzenberg Substations, Witzenberg Local Municipality, Western Cape, 2020 -2021, R435 000.
- Human Settlements Holistic Services, Charlesville Low Cost Housing General Authorisation, 2019 – ongoing, R150 000.

Visual Impact Assessments (VIA)

- SiVEST SA (Pty) Ltd, Visual Impact Assessment for Rhino and Sunnyside SEF (including Glint and Glare), Beaufort West, Western Cape, 2023 - Ongoing, R90 000.
- Mainstream Renewable Power South Africa (Pty) Ltd, Visual Fatal Flaw Analysis for Springbok Renewable Energy Cluster, Port Nolloth, Northern Cape, 2023, R15 000.
- Mainstream Renewable Power South Africa (Pty) Ltd, Visual Fatal Flaw Analysis for Springbok Renewable Energy Cluster, Springbok, Northern Cape, 2023, R15 000.
- SiVEST SA (Pty) Ltd, Shadow Flicker Assessment for Ujekamanzi 1 and 2 WEF, Ermelo, Mpumalanga, 2023, R83 000.
- SiVEST SA (Pty) Ltd, Visual Impact Assessment for Mayogi SPV Facility (including Glint and Glare), Kirkwood, Eastern Cape, 2022, R115 000.
- SiVEST SA (Pty) Ltd, Visual Impact Assessment for Lesaka SPV Facility (including Glint and Glare), Loeriesfontein, Northern Cape, 2022, R120 000.
- SiVEST SA (Pty) Ltd, Visual Impact Assessment for Hendrina South 132 kV Powerline and Substation, Hendrina, Mpumalanga Province, 2022, R60 000.
- SiVEST SA (Pty) Ltd, Visual Impact Assessment for Hendrina North 132 kV Powerline and Substation, Hendrina, Mpumalanga Province, 2022, R60 000.
- SiVEST SA (Pty) Ltd, Visual Impact Assessment (including Glint and Glare) for Bonsmara PV and Associated Infrastructure, Kroonstad, Free State Province, 2022, R72 000.
- Mainstream Renewable Power South Africa (Pty) Ltd, Visual Impact Assessment for the Hanover PV and WEF Cluster, Hanover, Northern Cape, 2022 – ongoing, R141 000
- Mainstream Renewable Power South Africa (Pty) Ltd, Visual Impact Assessment for the Stilfontien SPV Cluster and Associated Infrastructure, Stilfontein, North West Province, 2022, R95 000.
- Oceana Group Limited, Visual Impact Assessment for Oceana's 10 MW SPV Facility in St Helena Bay, Western Cape, 2021 – ongoing, R70 000.
- The Environmental Partnership, VIA for the Wingfield Interchange Upgrade BA, Cape Town, Western Cape, 2021, R56 000.
- Mineral Sand Resources (Pty) Ltd, VIA for the Tormin Mine Expansion EIA, Matzikama Local Municipality, Western Cape, 2021, R131 166.
- Mineral Sand Resources (Pty) Ltd, Visual Specialist Study for the De Punt Baseline Study, Matzikama Local Municipality, Western Cape, 2021, R95 466