

# Environmental Impact Assessment Draft Basic Assessment Report

11kV overhead line from the Bynes-  
Waterberg line to Cavalier Abattoir  
GAUT 002/21-22/E3062  
February 2022



Environmental Impact Assessment  
Draft Basic Assessment Report



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Reg No: 2014/017865/07

**11kV overhead line from the Bynes-Waterberg line to  
Cavalier Abattoir  
GAUT 002/21-22/E3062  
City of Tshwane Metropolitan Municipality  
Gauteng Province**

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## DISCLAIMER

The opinions expressed in this report have been based on the information supplied to Setala Environmental (Pty) Ltd (Setala). Setala has exercised all due care in reviewing the supplied information. The accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. Setala does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of Setala's investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which Setala had no prior knowledge nor had the opportunity to evaluate. This report is copyrighted by Setala Environmental (Pty) Ltd.

## DECLARATION

In terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the 2014 NEMA Environmental Impact Assessment (EIA) Regulations (as amended on 7 April 2017).  
I, Ria (MM) Pretorius, do hereby declare that I:

- Act as an independent Environmental Assessment Practitioner in compiling this report;
- Do not have any financial interests, or stand to gain in any way in the undertaking of this activity, other than remuneration for work performed;
- Do not have any vested interest in the proceeding activity or project;
- Have no, neither will engage in, conflicting interests in the undertaking of this activity;
- Undertake to disclose, to the competent authority, any material information that has, or may have, the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required; and
- Will provide competent authority access to my information regarding the report and investigations, whether such information is favourable to the applicant or not.

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- 3 *Proof of placement of newspaper advertisements*
- 4 *Communications to and from interested and affected parties*
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## Acronyms

BAR	Basic Assessment Report
CBA	Critical Biodiversity Area
CMA	Catchment Management Agencies
CR	Critically Endangered
DBAR	Draft Basic Assessment Report
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act, 1989 (Act No. 73 of 1989)
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMPr	Environmental Management Programme
EN	Endangered
ESA	Ecological Support Area
FSR	Final Scoping Report
GDARD	Gauteng Department of Agriculture and Rural Development
IDP	Integrated Development Plan
HGM	Hydrogeomorphic
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
IBA	Important Bird Areas
IEM	Integrated Environmental Management
LT	Least Threatened
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)

NEMWA	National Environmental Management Waste Act, 2008 (Act No. 59 of 2008)
NEMAQA	National Environment Management: Air Quality Act (No.39 of 2004)
NFEPA	National fresh water ecosystem priority areas
NPAES	National protected areas expansion strategy
NWA	National Water Act (Act 36 of 1998)
PDA	Primary Drainage Area
PES	Present Ecological State
PPP	Public Participation Process
PoS	EIA Plan of Study for Environmental Impact Assessment
QDA	Quaternary Drainage Areas
QDS	Quarter Degree Square
REMC	Recommended Ecological Management Class
SR	Scoping Report
SAHRA	South African Heritage Resources Agency
SWSA	Strategic water source areas of South Africa
VU	Vulnerable
WMA	Water Management Areas

## Glossary of Terms

**Activity (Development)** – an action either planned or existing that may result in environmental impacts through pollution or resource use.

**Alternative** – a possible course of action, in place of another, of achieving the same desired goal of the proposed project. Alternatives can refer to any of the following but are not limited to: site alternatives, site layout alternatives, design or technology alternatives, process alternatives or a no-go alternative. All reasonable alternatives must be rigorously explored and objectively evaluated.

**Applicant** – the project proponent or developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.

**Biodiversity** – the diversity of animals, plants and other organisms found within and between ecosystems, habitats, and the ecological complexes.

**Clearance** – means the radial distance from any electrical power transmission conductor and other wires of power lines. The Occupational Health and Safety Act 85 of 1993 and its regulations lay down the minimum clearances of electric conductors and other wires of power lines away from buildings and other structures. Non-compliance with the Act is non-negotiable.

**Construction** – means the building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.

**Cumulative Impacts** – impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities to produce a greater impact or different impacts.

**Direct impacts** – impacts that are caused directly by the activity and generally occur at the same time and at the same place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally quantifiable.

**Ecosystem** – a dynamic system of plant, animal (including humans) and micro-organism communities and their non-living physical environment interacting as a functional unit. The basic structural unit of the biosphere, ecosystems are characterised by interdependent interaction between the component species and their physical surroundings. Each ecosystem occupies a space in which macro-scale conditions and interactions are relatively homogenous.

**Environment** – In terms of the National Environmental Management Act (NEMA) (Act No 107 of 1998) (as amended), “Environment” means the surroundings within which humans exist and that are made up of:

- a) the land, water and atmosphere of the earth;
- b) micro-organisms, plants and animal life;
- c) any part or combination of (i) of (ii) and the interrelationships among and between them; and
- d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

**Environmental Assessment (EA)** – the generic term for all forms of environmental assessment for projects, plans, programmes or policies and includes methodologies or tools such as environmental impact assessments, strategic environmental assessments and risk assessments.

**Environmental Authorisation** – an authorisation issued by the competent authority in respect of a listed activity, or an activity which takes place within a sensitive environment.

**Environmental Assessment Practitioner** – the individual responsible for planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.

**Environmental Impact** – a change to the environment (biophysical, social and/ or economic), whether adverse or beneficial, wholly or partially, resulting from an organisations, activities, products or services.

**Environmental Impact Assessment (EIA)** – the process of identifying, predicting, evaluating and mitigating the biophysical, social, and other relevant effects of development proposals prior to major decisions being taken and commitments made.

**Environmental Issue** – a concern raised by a stakeholder, interested or affected parties about an existing or perceived environmental impact of an activity.

**Environmental Management** - ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.

**Environmental Management Programme** - A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. The EMP focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.

**Expansion** - means the modification, extension, alteration or upgrading of a facility, structure or infrastructure at which an activity takes place in such a manner that the capacity of the facility or the footprint of the activity is increased.

**Fatal Flaw** – issue or conflict (real or perceived) that could result in developments being rejected or stopped.

**General Waste** – household water, construction rubble, garden waste and certain dry industrial and commercial waste which does not pose an immediate threat to man or the environment.

**Hazardous Waste** – waste that may cause ill health or increase mortality in humans, flora and fauna.

**Indirect impacts** – indirect or induced changes that may occur as a result of the activity. These types of impacts include all of the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.

**Integrated Environmental Management** – a philosophy that prescribes a code of practice for ensuring that environmental considerations are fully integrated into all stages of the development and decision-making process. The IEM philosophy (and principles) is interpreted as applying to the planning, assessment, implementation and management of any proposal (project, plan, programme or policy) or activity – at local, national and international level - that has a potentially significant effect on the environment. Implementation of this philosophy relies on the selection and application of appropriate tools for a particular proposal or activity. These may include environmental assessment tools (such as strategic environmental assessment and risk assessment), environmental management tools (such as monitoring, auditing and reporting) and decision-making tools (such as multi-criteria decision support systems or advisory councils).

**Mitigate** – the implementation of practical measures designed to avoid, reduce or remedy adverse impacts or enhance beneficial impacts of an action.

**No-Go Option** – in this instance the proposed activity would not take place, and the resulting environmental effects from taking no action are compared with the effects of permitting the proposed activity to go forward.

**Open Space** – environmentally sensitive areas which are not suitable for development and consist of watercourses, buffers, floodplains, steep slopes, sensitive biodiversity and/or areas of cultural or heritage significance.

**Registered Interested and Affected Party** – an interested and affected party whose name is recorded in the register opened for that application in terms of regulation 42.

**Rehabilitation** – a measure aimed at reinstating an ecosystem to its original function and state (or as close as possible to its original function and state) following activities that have disrupted those functions.

**Right** - means the right to traverse or occupy land and includes inter alia servitudes, surface right permits, wayleaves, exercised options, licences and permissions to occupy. These are sometimes described as Rights-of-Way.

**Scoping** – the process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an environmental assessment. The main purpose of scoping is to focus the environmental assessment



on a manageable number of important questions. Scoping should also ensure that only significant issues and reasonable alternatives are examined.

**Sensitive environment** – any environment identified as being sensitive to the impacts of the development.

**Separation distance** - means the horizontal distance between centre lines measured perpendicularly between any two power lines running parallel to each other. Due to the fact that a number of variables (such as the worst case weather conditions which are likely to be encountered) have to be considered, guidelines for distances only can be laid down. The present ruling in Eskom is that when two lines of dissimilar voltages are running parallel, the separation distance is determined by the separation requirements of the higher voltage line.

**Servitude** - means a parcel of electric power transmission/distribution rights granted to Eskom over the immovable property of another and registered or to be registered against the title deed of the land in question and usually involves the payment of compensation.

**Significance** – significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. magnitude, intensity, duration and likelihood). Impact significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic).

**Stakeholder engagement** – the process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities.

**Sustainable Development** – development which meets the needs of current generations without hindering future generations from meeting their own needs.

**Tree and building restriction** - means the horizontal distance measured perpendicularly from the centre line (on either side) within which no trees and buildings may encroach.

Note: That use of the centre line, which is a visible physical feature to define the width of the building and tree restrictions in servitude and wayleave agreements, has been made here.

The types of supporting structures and method of constructing Eskom power lines render the physical definition of the centre line of a power line easily recognisable.

**Watercourse** – means:

- a) a river or spring;
- b) a natural channel or depression in which water flows regularly or intermittently;
- c) a wetland, lake or dam into which, or from which, water flows; and
- d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse as defined in the National Water Act, 1998 (Act No. 36 of 1998) and a reference to a watercourse includes, where relevant, its bed and banks.

**Wayleave agreement** - means an unregistered personal contract conferring electric power transmission rights to Eskom, which is generally regarded as being binding on successors in the title who have knowledge of the right. Eskom's minor power lines, which are rural and urban reticulation lines, are covered by wayleave agreements. These are not secured by registration in the Deeds Office. Eskom's security relies largely on the fact that power supplies are or can be made available from these lines. No compensation is paid for these rights because their presence is generally regarded as being an advantage to the property.

**Wetland** – means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.



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Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

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**Kindly note that:**

1. This Basic Assessment Report is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.
4. A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.
10. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

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**DEPARTMENTAL DETAILS**

Gauteng Department of Agriculture and Rural Development  
Attention: Administrative Unit of the of the Environmental Affairs Branch  
P.O. Box 8769, Johannesburg, 2000  
Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch  
Ground floor, Umnotho House, 56 Eloff Street, Johannesburg  
Email Address: bongani.shabangu@gauteng.gov.za  
Administrative Unit telephone number: (011) 240 3377/3051  
Department central telephone number: (011) 240 2500

	(For official use only)
NEAS Reference Number:	
File Reference Number:	GAUT 002/21-22/E3062
Application Number:	
Date Received:	

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

N/A

Is a closure plan applicable for this application and has it been included in this report?  
if not, state reasons for not including the closure plan.

N/A

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? *This is the draft Report - Comment pending*

Yes

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person?

If no, state reasons for not attaching the list.

Yes

N/A

Have State Departments including the competent authority commented?  
If no, why?

No

This document is the DBAR, to be perused by all I&APs, inclusive of the competent authority and State Departments.

## SECTION A: ACTIVITY INFORMATION

### INTRODUCTION

Setala Environmental (Pty) Ltd was appointed by Elektritek (Pty) Ltd, on behalf of their client, Cavalier Abattoir (Pty) Ltd, to submit an application for Environmental Authorisation for a proposed electricity supply project. The proposed project is located approximately 6 km west of Cullinan. The project area is in the City of Tshwane Metropolitan Municipality, in the Gauteng Province.

This report sets out the methodology, findings and recommendations to inform the decision by the Provincial Authority to grant or refuse environmental authorisation for the proposed development.

### 1 PROPOSAL OR DEVELOPMENT DESCRIPTION

#### Project title (must be the same name as per application form):

11kV overhead line from the Bynes-Waterberg line to Cavalier Abattoir

Select the appropriate box

The application is for an upgrade of an existing development	The application is for a new development	X	Other, specify
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Does the activity also require any authorisation other than NEMA EIA authorisation?

YES X NO

If yes, describe the legislation and the Competent Authority administering such legislation

National Heritage Resources Act: A Phase 1 Heritage Impact Assessment has been submitted to the South African Heritage Resources Agency for comment.

If yes, have you applied for the authorisation(s)?	YES X	NO
If yes, have you received approval(s)? (attach in appropriate appendix)	YES	NO X pending

### 1 PROJECT DESCRIPTION

The project will require the construction of a  $\pm 11$ km Chickadee overhead line from Bynes-Waterberg 11kV feeder (BWA28) to the site of Cavalier Abattoir.

Cavalier Abattoir (Pty) Ltd is an existing Eskom customer with the notified maximum demand of 1MVA/11kV. Currently the customer is provided with a bulk supply via the Pebble Rock-Noka feeder and has applied for a 3,8MVA supply upgrade.

Cavalier Abattoir is situated 12km from the Bynes substation. The current MV network is unable to cater for additional capacity in the area and the existing 2x20MVA transformers at Bynes substation are loaded at 6.5MVA. This application will take the Bynes Substation base load to 10.3MVA. The project will require an installation of a  $\pm 11$ km T-Off line and two Reclosers from the 11kV Bynes- Waterberg feeders.

The Application for Authorisation is for the following:

- The construction of a  $\pm 11$ km overhead 11kV line from the take-off point from the Bynes-Waterberg 11kV feeder (BWA28) to the end point at Cavalier Abattoir.
- Selective vegetation clearance in the servitude area.

The 11kV electricity supply infrastructure is being developed in terms of the Eskom Self-Build Process. Once constructed, the 11 kV overhead line will be transferred to Eskom Holdings SOC (Pty) Ltd, who will become the owner and operator thereof.

#### Overview of the Eskom Self-Build Process

In the period 2012 to 2014 Eskom's Transmission and Distribution divisions responded to market requests by adopting new policies and procedures which allow private developers to develop and build new Eskom bulk

electricity lines and substations which were required for their projects. The rationale behind the adoption of the Self-Build policy was an acknowledgement that private developers should be given the opportunity to save time and cost by using their own resources to develop these projects.

Eskom Distribution was the first division within Eskom to adopt a Self-Build Policy - in about 2011/2012 -, and Eskom Transmission followed suit in mid 2014 by adopting their own Self-Build Policy. At present the two policies are formalised in terms of the following two procedures, which are public domain documents which can be downloaded from Eskom's website:

- Self-Build Procedure for Eskom Distribution: "Standard for HV Self-Customer Build Projects in Distribution", Unique Identifier 240-43874056, 2.
- Self-Build Procedure for Eskom Transmission: "Procedure for Self-Build Projects in Transmission", Unique Identifier 240-61713594, Revision 0.

The principles set out in the Eskom Self-Build policies include the following:

- Customers are allowed to execute the following tasks which form part of the typical life cycle of bulk electrical infrastructure projects:
  - determine routes for new overhead lines and positions of new substations;
  - conduct the EIAs for the new overhead lines and substations;
  - negotiate and secure the servitudes for the new overhead lines and substations;
  - compile the engineering designs;
  - procure and supply the construction materials; and
  - construct and commission the new lines and substations.

*In the case of the overhead feeders to Cavalier Abattoir, the applicant assumed responsibility for all the above mentioned tasks, including conducting the EIA. All work is conducted in close coordination with Eskom as per the principles set out below.*

- The Customer shall be responsible to pay for all tasks for which it assumes responsibility, however, these costs are subtracted from the costs which Eskom would have incurred had it executed these tasks. This means that if the private developer can execute the work at lower cost than Eskom, then it saves these costs.
- Eskom remains responsible for the following tasks even for Self-Build policies:
  - Electrical network planning, which involves determining how many lines and substations should be constructed, at which locations, with what capacities and voltage levels.
  - Eskom shall specify and enforce the engineering standards and specifications according to which the new infrastructure shall be constructed.
  - Eskom shall review and approve all designs prior to construction.
  - Only Eskom approved materials may be used.
  - Eskom shall have the right to monitor the construction process to ensure that its standards and specifications are complied with.

Once the construction process is completed, the following takes place:

- The new lines and substations are inspected by Eskom and if it is found to be free of defects, then it is handed over to Eskom.
- Eskom remains responsible for the operation and maintenance of these assets.
- At this stage the private developer is no longer involved in the assets.

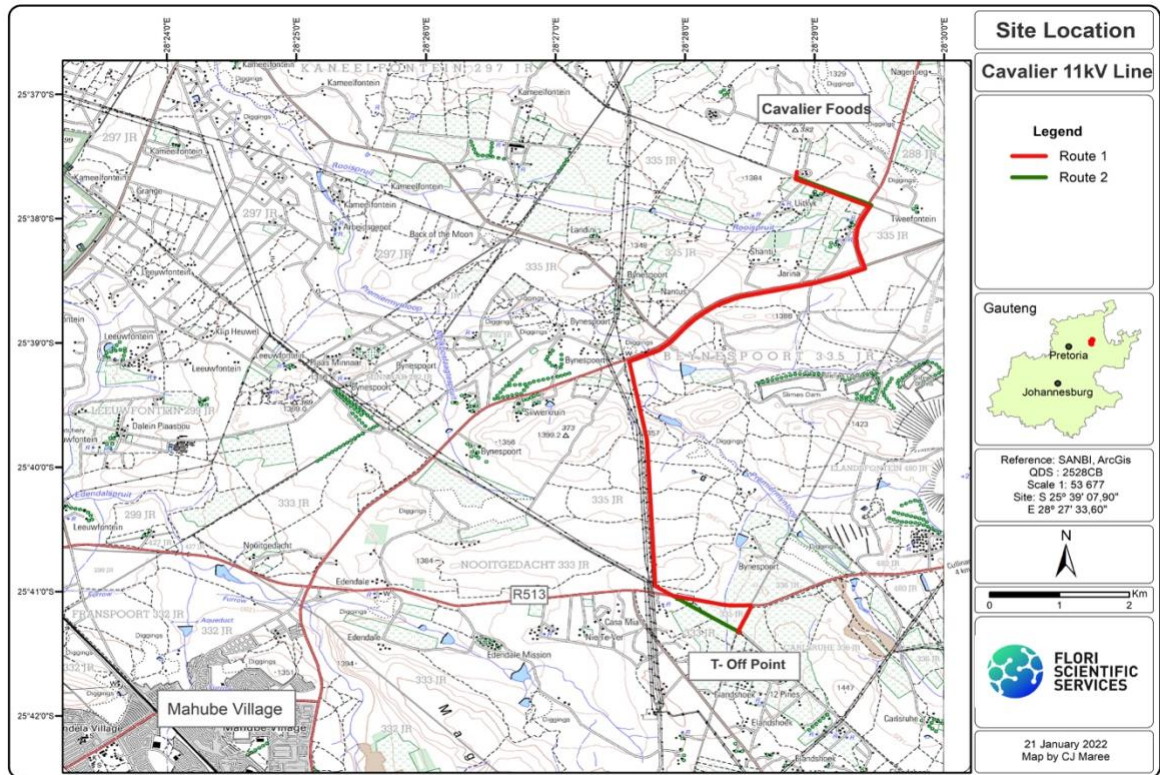
Since its adoption in the last few years, many developers have utilised the Eskom Self-Build process to develop, design and construct Eskom overhead lines and substations, often at lower costs and within shorter timeframes that could be expected had Eskom executed this work. It is commendable that Eskom has adopted this policy, thereby allowing market efficiencies to be realised at the benefit of the South African economy.

## 2 PROJECT LOCALITY

The proposed project is located approximately 6 km west of Cullinan. The project area is in the City of Tshwane Metropolitan Municipality, in the Gauteng Province. (Project indicated on the Site Location maps below).

The GPS coordinates of the main landmarks within the project area are as follows:

- Cavalier Abattoir (Cavalier Foods): 25°37'35.99"S; 28°28'55.02"E.
- T-Off Point of 11 kV Power Line: 25°41'19.76"S; 28°28'25.50"E.
- Quarter Degree Square (QDS): 2528CB.
- Quaternary Drainage Area (QDA): A23B.



Figures 1: Site Location (Topo Cadastral Map)

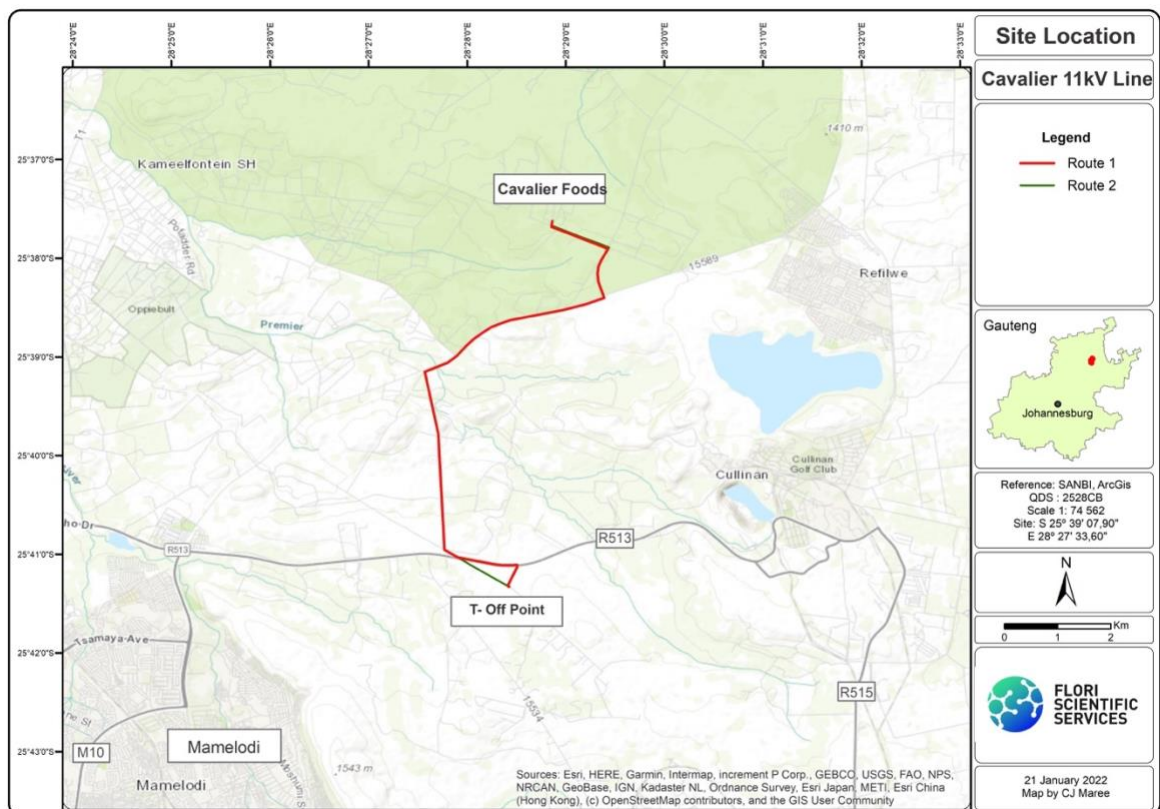


Figure 2: Study Site Location (Base Map)

### 3 PROPERTY DESCRIPTIONS

The proposed alignment (from Cavalier to T-off point) will affect the following properties within the jurisdiction of the City of Tshwane Metropolitan Municipality, Gauteng Province:

#### ROUTE 1

ITEM	LPI_CODE	PROPERTY INFORMATION	REGISTRATION DEVISION	ROUTE 1
1	TOJR00000000028800064	Portion 64 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	
2	TOJR00000000028800006	Portion 6 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	x
3		Performance Street Servitude diagram: 3601/2015001	JR	x
4	TOJR00000000033500036	Portion 36 of the farm Beynespoort 335JR	JR	x
5	TOJR00000000033500046	Portion 46 of the farm Beynespoort 335JR	JR	x
6	TOJR00000000033500047	Portion 47 of the farm Beynespoort 335JR	JR	x
7	TOJR00000000033500048	Portion 48 of the farm Beynespoort 335JR	JR	x
8		R573/P207	JR	x
9	TOJR00000000033500002	Portion 2 of the Farm Beynespoort 335JR	JR	x
10		Road M8/M10	JR	x
11	TOJR00000000033500001	Portion 1 of the Farm Beynespoort 335JR	JR	x
12	TOJR00000000033500019	Portion 19 of the farm Beynespoort 335JR	JR	x
13		Road R513 (Sefako Makgatho Drive)	JR	x
14		Olienhoutweg	JR	x
15	TOJR00000000033500082	Portion 82 of the farm Beynespoort 335JR	JR	
16	TOJR00000000033600001	Portion 1 of the farm Carlsruhe 336JR	JR	
17	TOJR00000000033600000	Remaining Extent of the farm Carlsruhe 336JR	JR	
18	TOJR00000000033700027	Portion 27 of the farm Elandshoek 337JR	JR	x

#### ROUTE 2

ITEM	LPI_CODE	PROPERTY INFORMATION	REGISTRATION DEVISION	ROUTE 2
1	TOJR00000000028800064	Portion 64 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	
2	TOJR00000000028800006	Portion 6 of the farm Boekenhoutskloof 288JR alias Tweefontein	JR	x
3		Performance Street Servitude diagram: 3601/2015001	JR	x
4	TOJR00000000028800017	Portion 17 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	x
5		R573/P207	JR	x
6	TOJR00000000033500002	Portion 2 of the Farm Beynespoort 335JR	JR	x
7		Road M8/M10	JR	x
8	TOJR00000000033500001	Portion 1 of the Farm Beynespoort 335JR	JR	x

9	TOJR00000000033500082	Portion 82 of the farm Beynespoort 335JR	JR	
10		Road R513 (Sefako Makgatho Drive)	JR	x
11	TOJR00000000033300026	Portion 26 of the farm Nooitgedacht 333JR	JR	x
12	TOJR00000000033300027	Portion 27 of the farm Nooitgedacht 333JR	JR	x
13	TOJR00000000033300028	Portion 28 of the farm Nooitgedacht 333JR	JR	x
14	TOJR00000000033300029	Portion 29 of the farm Nooitgedacht 333JR	JR	x
15	TOJR00000000033700027	Portion 27 of the farm Elandshoek 337JR	JR	x
16		Olienhoutweg	JR	x
17	TOJR00000000033600000	Remainder of the farm Carlsruhe 336JR	JR	

## 2 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations:

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act, 1998 (Act No 107 of 1998 as amended)	National & Provincial	1998
National Environmental Management: Waste Act (Act No 59 of 2008) (as amended)	National & Provincial	2008
National Environmental Management: Air Quality Act (Act No 39 of 2004)	National & Provincial	2004
National Water Act, 1998 (Act No 36 of 1998)	National & Provincial	1998
National Heritage Resources Act (Act No 25 of 1999)	National & Provincial	1999
National Environmental Management: Biodiversity Act (Act No 10 of 2004)	National & Provincial	2004
National Road Traffic Act (Act No 93 of 1996)	National & Provincial	1996
Occupational Health and Safety Act (Act No 85 of 1993)	National & Provincial	1993
Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983) (as amended)	National & Provincial	1983
All relevant Provincial regulations and Municipal bylaws	Provincial & Local	
Eskom Conversion Act (Act No 13 of 2001)	National	2001
Electricity Regulation Act (Act No 4 of 2006)	National	2006
SA National Roads Agency Limited and National Roads Act (Act No 7 of 1998)	National	1998

## 1 RELEVANT LEGISLATION, POLICIES AND/OR GUIDELINES

The National Environmental Management Act (Act No. 107 of 1998) and the Environmental Impact Assessment (EIA) Regulations, of 2017

An application for authorisation of the project is submitted to the Gauteng Department of Agriculture and Rural Development (GDARD), in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) Regulations of 2017.

The proposed project is a listed activity in terms of Sections 24(2) and 24(d) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) (as amended). The Environmental Impact Assessment (EIA) Regulations, 2017 promulgated in terms of Chapter 5 of the NEMA provide for the control of certain activities that are listed in Government Notice Regulation (GN R.) No. 327, 325 and 324. Activities listed in these notices must comply with the regulatory requirements listed in GN R. 326, which prohibits such activities until written Authorisation is obtained from the Competent Authority. Such Environmental Authorisation (EA), which may be granted subject to conditions, will only be considered once there has been compliance with the EIA Regulations of 2017. GN R. No. 326 sets out the procedure and documentation that need to be compiled with undertaking a Basic Assessment Process.

National Water Act (Act No. 36 of 1998)

No application will be required for a water use authorisation in terms of the General Notice 509, Government Gazette 40229, dated 26 August 2016, "General Authorisation in terms of Section 39 of the National Water Act, 1998 (Act No. 36 of 1998) (NWA)".



#### National Heritage Resources Act (Act No. 25 of 1999)

A Phase I Heritage Impact Assessment (HIA) study is generally required in terms of Section 38 of the National Heritage Resources Act (No 25 of 1999) to establish whether any of the types and ranges of heritage resources ('national estate') as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999) do occur on the property and, if so to determine the significance of these heritage resources, and to make recommendations regarding the mitigation and management of significant heritage resources that may be affected.

#### National Forests Act (Act No. 84 of 1998)

The project might involve the cutting, disturbing, damaging or destroying of protected trees declared in terms of section 12 of the National Forest Act (NFA) (Act 84 of 1998), as amended. A licence in terms of section 15 of the NFA will be required should either the proposed Route 1 or the Alternative Route 2 be constructed.

#### National Veld and Forest Fire Act (Act No. 101 of 1998)

The applicant should provide fire breaks in accordance with Chapter 4 of the National Veld and Forest Fire Act (Act 101 of 1998) and should consider amongst other the following:

- Fire rating
- Consultation of adjoining owners and the fire protection association (if any)
- be present at such burning or have an agent attend.

The fire break should be:

- wide and long enough to prevent to have a reasonable chance of preventing a veldfire from spreading to or from neighbouring land;
- it does not cause soil erosion; and is reasonably free of inflammable material capable of carrying a veldfire across it.

#### Permitting and License Requirements

The following permitting and or license requirements are applicable to the proposed project:

#### Protected Tree Removal – Section 15 of National Forests Act (Act No. 84 of 1998)

Two national protected trees were observed in the region, namely Leadwood (*Combretum imberbe*) and Marula (*Sclerocarya birrea*). There were a few marula trees in close proximity to the proposed power line route in the northern section of the route in the Central Sandy Bushveld. No leadwood trees were close to the proposed route alternatives. The construction of either power line route will involve the cutting, disturbing, damaging or destroying of protected trees declared in terms of section 12 of the NFA, therefore a licence in terms of section 15 of the NFA will be required. No provincial protected trees were observed in the study area.

#### Eskom Building line restrictions, servitude widths, line separations and clearances from power lines

##### Design specifications

It is proposed to construct the 11kV Chickadee overhead line from the take-off point from the Bynes-Waterberg 11kV feeder (BWA28) to the site of Cavalier Abattoir.

The proposed structures for the 11kV overhead power line, are a wooden H pole and a wooden 3-pole 90 degrees bend structure (Recloser structures will be added). In general, the structures could be placed up to 160 metres apart, over the length of the power line. The structures for the power line are between 11 and 14 metres high, depending on the terrain and existing land use. The flatter the terrain, the shorter the structures as well as the distance between the structures needs to be. Ground clearances will adhere to the requirements of the Occupational Health and Safety Act (Act No. 58 of 1993). For this project it is proposed to be 6.5m above ground in open areas to accommodate giraffes in the section of the route traversing Cullinan Game Farm and a minimum of 6.5m above ground at all road crossings.

The wooden pole planting depths vary between 1.8m (for 11m poles) and 2.2m (for 14m poles) or more depending on the pole length. The foundation of the pole is determined by the soil type conditions and could range from augered holes to excavated foundations 1.3m x 1.3m in size. The specific foundation type will be determined post a geotechnical analysis of the soil types encountered on the site. Where the site is relatively flat, single H-pole structures without stays will be used, except for where the power line has to change direction. Should stays be needed then the stays will be at a 45° angle to the structure and planted on average 9.2 metres to 12.8 metres from the structure. Refer to Appendix C in the BAR for visuals of the structure.

##### Separation distance

In the Cullinan Game Farm the 11kV line will run parallel and to the east of the Esselen - Pelly 275kV transmission line and the separation distance is expected to be a minimum of 40 metres. The separation distance is the

horizontal distance between the centre lines measured perpendicularly between these two power lines running parallel to each other.

#### Tree and building restrictions

The horizontal distance measured perpendicularly from the centre line (on either side of the line) within which no trees and buildings may encroach is 9m for the 11kV line.

#### Clearance

Clearance is the radial distance from any electrical power line conductor and other wires of power lines. The Occupational Health and Safety Act 85 of 1993 and its regulations lay down the minimum clearances of electric conductors and other wires of power lines away from buildings and other structures. Eskom and several other authorities (Roads Department, Transnet Telkom, etc.) have laid down minimum clearances to their works, which are in excess of those required by the OHS Act.

#### Roads

The 11kV line will jump a few roads, inter alia Performance Street, R573/P207, Road M8/M10, Road R513 (Sefako Makgatho Drive) and Olienhoutweg.

The Provinces use clauses in the Advertising on Roads and Ribbon Development Act 21 of 1940 to impose building restrictions for a distance outside the road reserve boundaries. The clauses in the Advertising on Roads and Ribbon Development Act preclude without approval, any building or structure within 95 metres each side of the centre line of any proclaimed building restriction road. The jurisdiction of any provincial roads department does not extend beyond the 190 metre wide strip whose centre line is the centre line of the proclaimed road reserve. The applicant has to apply to the relevant provincial road authority for all new Eskom services so that Eskom can be advised of future road plans and other special conditions that must be observed.

#### Vegetation clearance

Vegetation clearance will be selective and limited to vegetation that might interfere with the electrical infrastructure. An area of 9m might be cleared of major trees and bushes on either side of the centre line of the power line.

#### Wayleave requirements

The wayleave is an unregistered personal contract conferring electric power distribution rights to Eskom, which is generally regarded as being binding on successors in the title who have knowledge of the right. Eskom's minor power lines, which are rural and urban reticulation lines, are covered by wayleave agreements. These are not secured by registration in the Deeds Office.

The 11kV line requires an area width of 18 metres (9 metres on either side of the centre line of the power line) The wayleave area is a "restricted area" and will allow Eskom the following:

- the right to erect such structures and works on the property or to erect or lead such conductors, cables or appliances or other equipment on or over the property as may be necessary or convenient in exercising the right of servitude; and the right to erect such supporting mechanisms for structures and works with the possibility that it may reasonably extend beyond the servitude area as may be necessary or convenient to safely secure the structures or works.
- the right to enter and be upon the property at any time in order to construct, erect, operate, use, maintain, repair, re-erect, alter or inspect the structures, works, appliances, conductors or cables on the property or in order to gain access to any adjacent property in the exercise of similar rights;
- the right to use existing roads giving access to the property or roads running across the property and gates on the property and to erect in any fence such gates as may be necessary or convenient to gain access to or egress from the property and to gain access to any power line, telecommunication conductors, cables or accessory equipment;
- the right to remove any trees, bush, material, grass or structures within the restricted area and the right to cut or trim any tree in order to comply with the tree and building restrictions.

#### Laydown area

A laydown area of 50m by 50m will be required. This area will be used to temporarily store tools, materials, equipment, and vehicles when they are not in use. The laydown area is proposed to be within the site of Cavalier Abattoir.

## **2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT**

In the South African legislative framework, the National Environmental Management Act No. 107 of 1998, as amended (NEMA) regulates development activities, which may pose a risk to the integrity of the ecological and human environment. Coupled with NEMA, listed activities are provided, which describe the types, limits, expanse

and nature of developments that require a Basic Environmental Assessment Process, in application for Environmental Authorisation prior to commencement.

The following construction activities will require Environmental Authorisation:

Description of compliance with the relevant legislation, policy or guideline:	
Legislation, policy of guideline	Description of compliance
<p><u>GN R. 327/2017</u>  <u>Listing Notice 1 Activity 19</u>                      The infilling or depositing of any material of <u>more than 10 cubic metres into</u>, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of <u>more than 10 cubic metres from a watercourse</u>;</p> <p>but excluding where such infilling, depositing, dredging, excavation, removal or moving—</p> <ul style="list-style-type: none"> <li>(a) will occur behind a development setback;</li> <li>(b) is for maintenance purposes undertaken in accordance with a maintenance management plan;</li> <li>(c) falls within the ambit of activity 21 in this Notice, in which case that activity applies;</li> <li>(d) occurs within existing ports or harbours that will not increase the development footprint of the port or harbour; or</li> <li>(e) where such development is related to the development of a port or harbour, in which case activity 26 in Listing Notice 2 of 2014 applies.</li> </ul>	<p>The construction of power line structures/ pylons within 32 meters of a watercourse along the feeder line might be required.</p>
<p><u>GN R. 324/2017</u>  <u>Listing Notice 3 Activity 12</u>                      The clearance of an area of <u>300 square metres or more</u> of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan</p> <p><u>Gauteng</u></p> <ul style="list-style-type: none"> <li>i) Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</li> <li>ii) Within <u>Critical Biodiversity Areas</u> or Ecological Support Areas identified in the Gauteng Conservation Plan or bioregional plans; or</li> <li>iii) On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</li> </ul>	<p>More than 300 square metres of indigenous vegetation will be cleared in the power line servitude area. A section of the power line is within a Critical Biodiversity Area (CBA). An area of 9m might be cleared of major trees and bushes on either side of the proposed alignment of the power line.</p> <p>The servitude area is 18 metres wide and 10 750 metres (10,75km) long. This amounts to a surface area of 193 500 m<sup>2</sup> (19.35 hectares). Vegetation clearance will be selective and limited to vegetation that might interfere with the electrical infrastructure.</p>

### 3 ALTERNATIVES

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. Do not include the no go option into the alternative table below.

**Note:** After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Please describe the process followed to reach (decide on) the list of alternatives below

During investigations alternatives within the larger study area were investigated. The best options were determined through the environmental and specialist studies, as well as the limitations inherent to the project area, and the technical requirements for electrical infrastructure. Comment from Interested and Affected Parties were also synthesised to identify options.

The following alternatives have been identified and are described as follows:

#### 1 POWER LINE ROUTE ALTERNATIVES

Route alternatives were assessed and a preferred alternative identified. The proposed power line corridor traverses the area from south of the R513 through the Cullinan Game Reserve towards the R573 where it follows the road towards the Cavalier abattoir grounds. Impact areas outside of the Cullinan Reserve are generally disturbed areas along the large roads. The landscape is generally flat with one large hill towards the centre of the game farm area. The proposed line will follow an existing power line corridor, to the east of the existing Esselen/Pelley 275 kV power line, through the Cullinan Game Reserve.

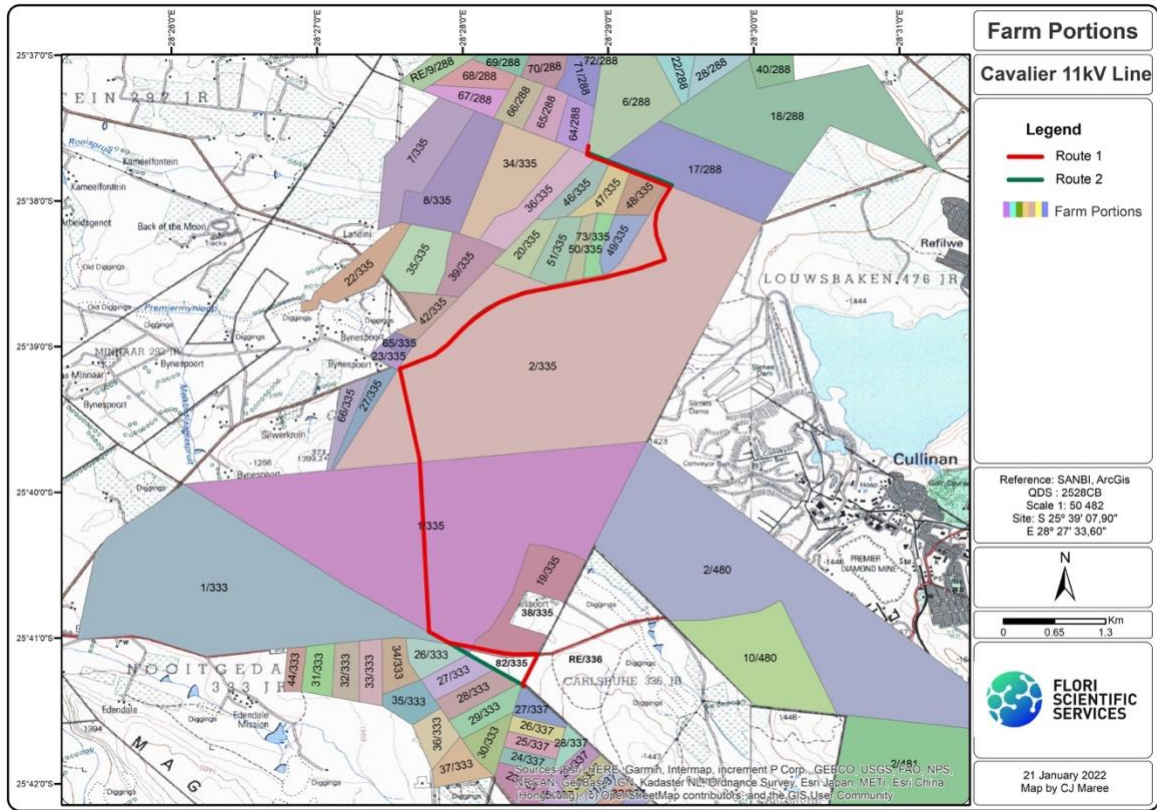


Figure 3: Study Site Location showing the Routes

**Ecological Sensitivity**

The routes investigated are suitable for the proposed project as it is not situated within any priority areas. Priority areas include formal and informal protected areas (PA) (nature reserves); important bird areas (IBAs); RAMSAR sites; National fresh water ecosystem priority areas (NEFEPA) and National protected areas expansion strategy (NPAES) areas.

According to the official Protected Areas Register (PAR) the only officially registered protected area or conservation area within a 10km radius of the study site (power line route) is the Roodeplaats Dam Nature Reserve, although the Seringveld Conservancy is highlighted on the site's map ([www.portal.environment.gov.za](http://www.portal.environment.gov.za)). (The Roodeplaats Dam Nature Reserve is between 8km to 10km west of the power line servitude, as the power line route does not run in a straight line.) The study site runs through the Cullinan Game Farm, and in the north a section is within the Seringveld Conservancy. Note: That the outer boundaries of the game reserve are not exact and that the Seringveld Conservancy area extends further north and east than highlighted in the figure below.

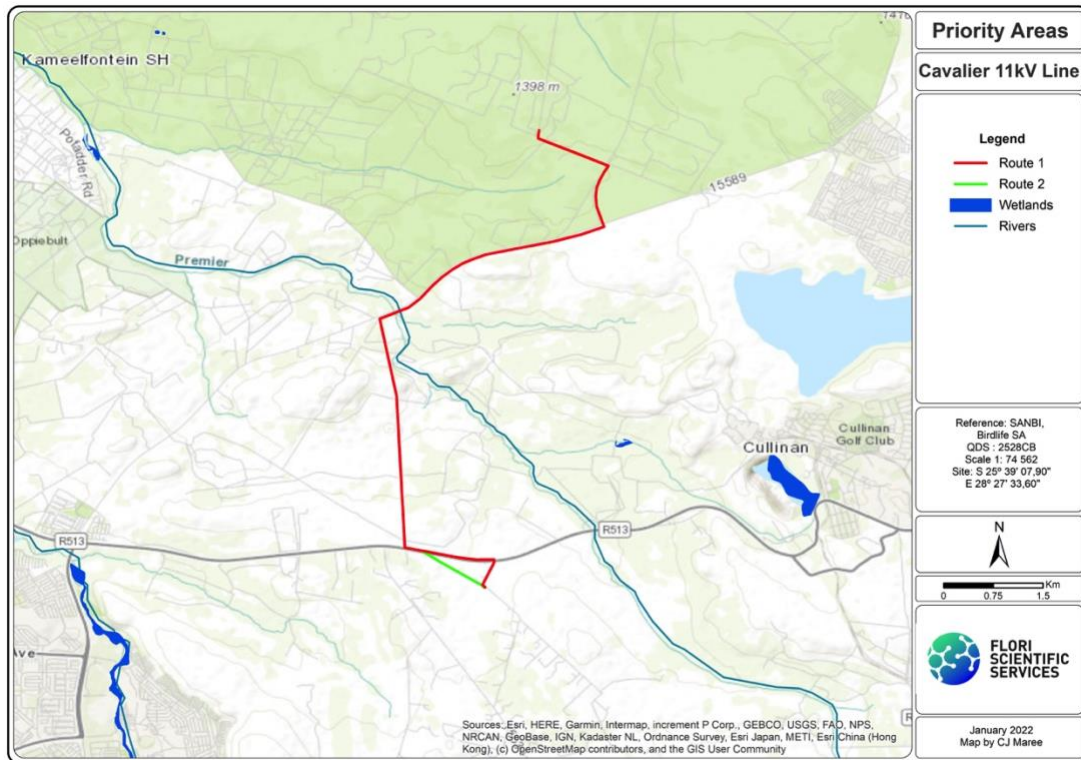


Figure 4: Priority Areas

The sensitive areas in the study area are the few small watercourses and the rocky hills in the north of the Cullinan Game Farm (south of the R573). Although the majority of the power line route runs through a demarcated CBA area, this CBA area in reality is not ecologically sensitive. It is demarcated most likely on the grounds that it is Marikana Thornveld (which is a threatened veldtype / ecosystem). However, within the area of the power line routes there are no protected trees, RDL plants, etc. and much of the route in the CBA, which is in the Cullinan Game Farm, is open treeless grassland and not dense or characteristic thornveld. However, the CBA area has been demarcated as having a sensitivity of ‘Medium’ as per the ecological sensitivity assessment.

The entire study site therefore has a sensitivity rating of ‘Medium’, with the watercourses and rocky hills having a sensitivity of ‘High’. There are no ‘no-go’ zones within the power line servitude. Keeping in mind that no pylons may be positioned / planted within demarcated watercourses and associated buffer zones.

Two power line route / servitude alternatives were investigated, namely Route 1 and Route 2. There is little difference between the two routes, with the exception that Route 2 initially follows a more direct route in the southern section at the T-off point. The lack of variables in route alternatives is also due to the lack of open space and manoeuvrability for new power line servitudes in the area and across private properties.

The ecological impacts of the two alternatives differ very little, and if at all then only in the first kilometre in the south of the study site at the T-off point. The variability in the potential significant impacts of the two route alternatives is highlighted in the table below. Route 1 is recommended only because it follows the existing road and power line within the first kilometre from the T-off point in the south, while Route 2 crosses through more open veld and drainage area. Simply on these grounds Route 1 is the recommended route alternative, although from a construction and costing viewpoint a straight line is more desirable. Refer to the Biodiversity Assessment attached as *Appendix G1*.

Table: Potential ecological impacts by power line alternatives

<b>Ecological Sensitive Aspect</b>	<b>Route 1</b>	<b>Route 2</b>
Areas of high ecological sensitivity	1 (Hill)	1 (Hill)
No-Go areas in close proximity	0	0
No. of river / stream crossings	2	2
Drainage lines	1	1
Rocky outcrops	1	1
Ridges	1	1
Wetlands	1	1

CBA	1	1
ESA	0	0
Protected Areas	2	2
<b>No of potential impacts</b>	<b>10</b>	<b>10</b>

Below is a sensitivity map of the study site (power line routes). The entire power line route (Route 1 & 2) has a sensitivity of 'Medium', with the exceptions of the five isolated areas of 'High' and the two areas of 'Low'. The two low sensitivity areas are the Cavalier Foods industrial area (in the north) and the small-holding and homestead in the south near the T-off Point. The high sensitivity areas are all watercourse crossings (including the buffer areas), except for the one area (circled high sensitivity location) in the approximate middle of the line, which is the area of rocky hills.

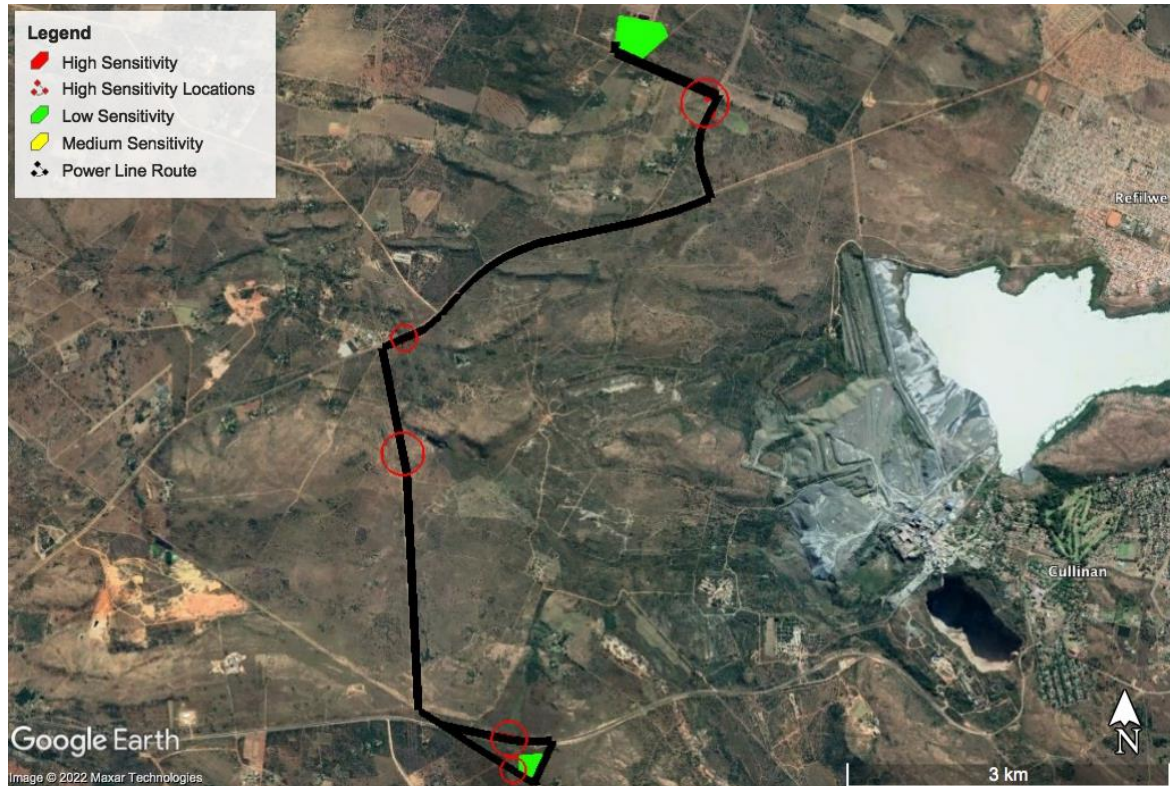


Figure 5: Sensitivity map

### Avifauna Sensitivity

The final rating, or score, shows that **Route 1** has a better rating due to the lower total than **Route 2**. In other words, in terms of the rating criteria used, Route 1 is less sensitive in terms of Avifaunal Impacts. Refer to the Avifauna Assessment attached as *Appendix G2*.

Table: Avifauna Sensitivity analysis ratings (Score)

Factors	Alternative 1	Alternative 2
<b>Risk-creating factors</b>		
Wetlands & dams	1000,00	450,00
Number of rivers & streams	3,00	3,00
Number of drainage lines	3,00	3,00
Grassland	8696,00	8696,00
<b>Risk-reducing factors</b>		
Cultivated lands	-882,00	-882,00
Existing TX lines	-3356,00	-3356,00
Roads	-13714,00	-10850,00

Suburban/industrial	0,00	0,00
<b>TOTAL</b>	<b>-8250,00</b>	<b>-5936,00</b>

The two power line route alternatives are very similar in most aspects, but for the first section in the south from the T-off point Route 1 runs along an existing road for about 1,4km, while Route 2 cuts straight across open veld for about 1km. The fact that Route 1 is next to a road over this section is a positive.



Figure 6: Sensitivity Map: Avifauna

### Heritage Sensitivity

The two alternatives are both acceptable from a heritage point of view. The only resource in proximity to the power line is a small cemetery (approximately 14 graves) situated next to the road at -25.6827746, 28.4625081 recorded as waypoint 236. Refer to the Heritage Impact Assessment attached as *Appendix G3*. The cemetery is marked by graves with stone dressings with no headstones apart from two graves with granite headstones. The cemetery is situated just outside of the Game Reserve fence on the southern edge of portion 1/335. The cemetery is located more than 30 meters away from the line and will not be impacted on.

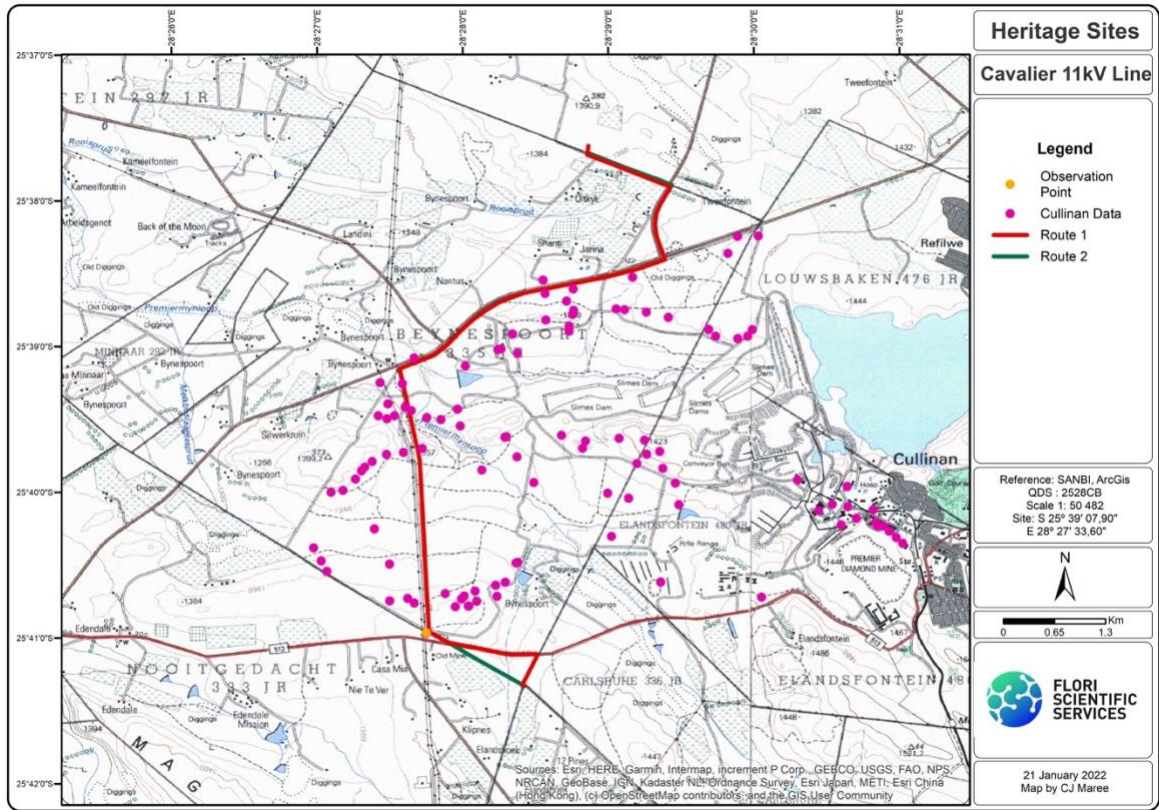


Figure 7: Known and recorded features in relation to the line

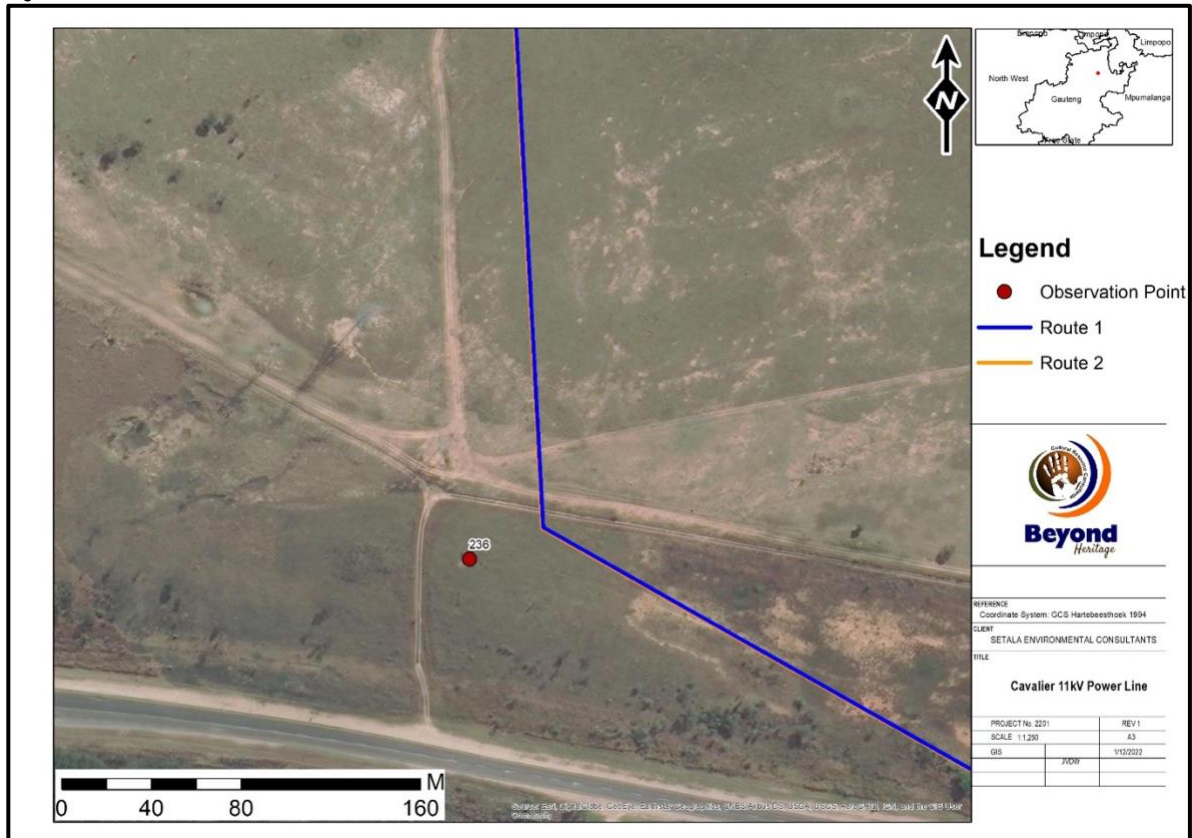


Figure 8: Recorded cemetery 32 meters from the power line

**Paleontological Sensitivity**



According to the SAHRA Paleontological map the study area is of no to moderate paleontological significance and in an independent study, it was concluded that it is extremely unlikely that any fossils would be preserved in the overlying soils and sands of the Quaternary. The two alternatives are therefore both acceptable from a Paleontological point of view.



Colour	Sensitivity	Required Action
RED	VERY HIGH	Field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	Desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	Desktop study is required
BLUE	LOW	No palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	No palaeontological studies are required
WHITE/CLEAR	UNKNOWN	These areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map

Figure 9: Paleontological sensitivity of the study area as indicated on the SAHRA Palaeontological sensitivity map

Below is an integrated sensitivity map, of the study site (power line routes).

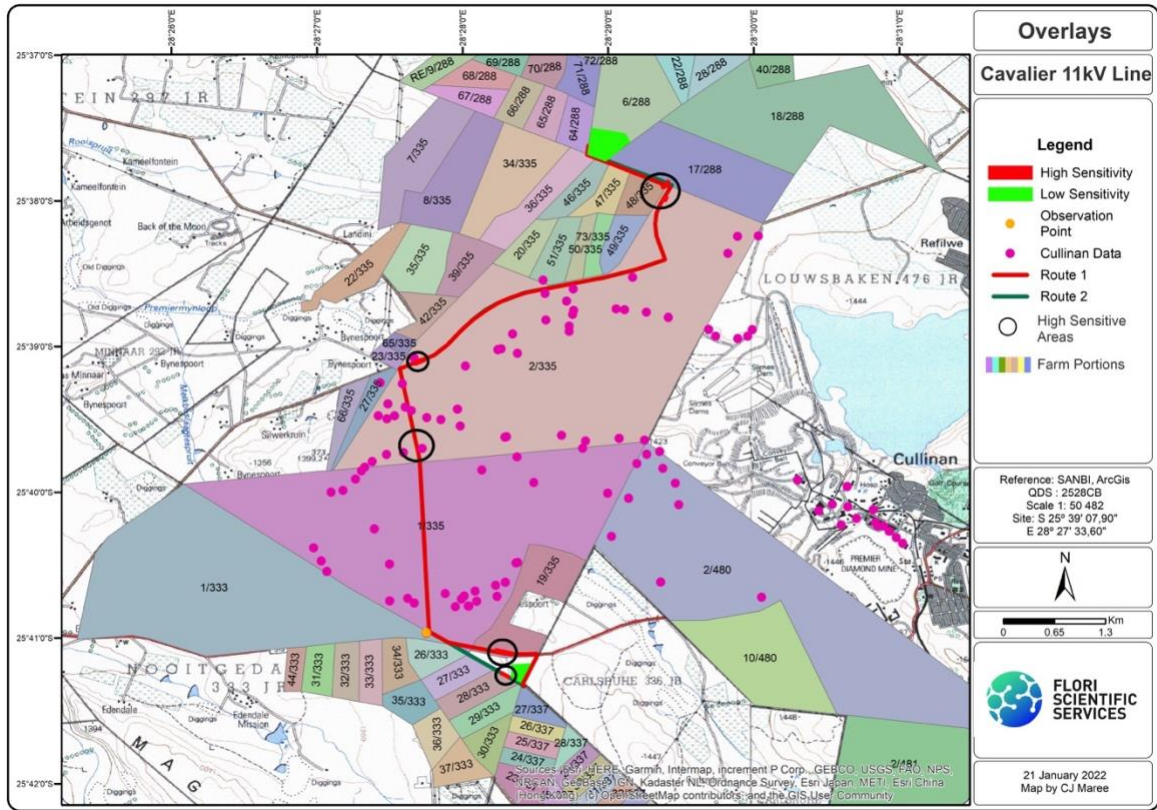


Figure 10: Integrated sensitivity map

## 2 NO-GO ALTERNATIVE

Taking all aspects into consideration including, ecological sensitivities, red data listed species (RDL), protected trees, heritage sensitivities, the type of project and related activities, as well as mitigating measures and existing basic procedures for power lines, there are no fatal flaws and the project may go ahead.

It is suggested that to maintain the status quo is not the best option for the macro environment. The reliable provision of electricity by Eskom is critical for sustainable development and related employment, and sustainable human settlements in South Africa.

Cavalier Abattoir is currently provided with a bulk supply via the Pebble Rock-Noka feeder. The current MV network is unable to cater for additional capacity in the area. Should this application not be approved the required demand will not be provided for and the supply will not be reliable and this can result in major disturbances in provision to the customer base. This proposed project is therefore essential to improve the supply of electricity to the network. The No-Go development alternative could therefore not be considered the responsible way to manage the site.

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A
-----

## 4 PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity (Total environmental (landscaping, parking, etc.) and the building footprint)	ha/m <sup>2</sup>
Alternatives:	
Alternative 1	N/A
Alternative 2 (if any)	N/A

or, for linear activities:

	Length of the activity:

<b>Proposed Route 1</b>		<b>10 750 m</b>
<b>Route 2</b>		<b>10 250 m</b>

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

		<b>Size of the site/servitude:</b>
<b>Proposed Route 1</b>		<b>19.35 ha / 193 500 m<sup>2</sup></b>
<b>Route 2</b>		<b>18.45 ha /184 500 m<sup>2</sup></b>

## 5 SITE ACCESS

### Proposal

Does ready access to the site exist, or is access directly from an existing road?	YES X	NO
If NO, what is the distance over which a new access road will be built	m	
Describe the type of access road planned:		
No new access to the site is planned. During construction all vehicle movement must be along existing roads. The servitude areas of the existing power lines will also be used to gain access during construction. A temporary construction road will be cleared in the new servitude/wayleave area underneath the future power line to enable the construction activities. An area of 9m will be cleared of major trees and bushes on either side of the proposed alignment of the line. As mentioned the existing servitudes and existing roads should be used during construction. Therefore road alternatives are not being investigated for this project.		

Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

### Alternative 1

Does ready access to the site exist, or is access directly from an existing road?	YES X	NO
If NO, what is the distance over which a new access road will be built	m	
Describe the type of access road planned:		
Refer to above.		

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated		Number of times
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(only complete when applicable)

## 6 LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);
- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

**FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)**

- the scale of locality map must be at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map;
- the locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

## 7 SITE PHOTOGRAPHS

Colour photographs from the center of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable. Refer to Appendix B.

## 8 FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity to be attached in the appropriate Appendix. Refer to Appendix C.

## SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

**Note:** Complete Section B for the proposal and alternative(s) (if necessary)

### Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route	N/A	times
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### Instructions for completion of Section B for location/route alternatives

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives	0	times
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(complete only when appropriate)

### Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then

All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route	0	(complete only when appropriate for above)
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Section B – Location/route Alternative No.	0	(complete only when appropriate for above)
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## 1 PROPERTY DESCRIPTION

The proposed alignment will affect the following properties within the jurisdiction of the City of Tshwane Metropolitan Municipality, Gauteng Province:

### ROUTE 1

ITEM	LPI_CODE	PROPERTY INFORMATION	REGISTRATION DEVISION	ROUTE 1
1	TOJR00000000028800064	Portion 64 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	
2	TOJR00000000028800006	Portion 6 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	x
3		Performance Street Servitude diagram: 3601/2015001	JR	x
4	TOJR00000000033500036	Portion 36 of the farm Beynespoort 335JR	JR	x
5	TOJR00000000033500046	Portion 46 of the farm Beynespoort 335JR	JR	x
6	TOJR00000000033500047	Portion 47 of the farm Beynespoort 335JR	JR	x
7	TOJR00000000033500048	Portion 48 of the farm Beynespoort 335JR	JR	x
8		R573/P207	JR	x
9	TOJR00000000033500002	Portion 2 of the Farm Beynespoort 335JR	JR	x
10		Road M8/M10	JR	x

11	TOJR00000000033500001	Portion 1 of the Farm Beynespoort 335JR	JR	x
12	TOJR00000000033500019	Portion 19 of the farm Beynespoort 335JR	JR	x
13		Road R513 (Sefako Makgatho Drive)	JR	x
14		Olienhoutweg	JR	x
15	TOJR00000000033500082	Portion 82 of the farm Beynespoort 335JR	JR	
16	TOJR00000000033600001	Portion 1 of the farm Carlsruhe 336JR	JR	
17	TOJR00000000033600000	Remaining Extent of the farm Carlsruhe 336JR	JR	
18	TOJR00000000033700027	Portion 27 of the farm Elandshoek 337JR	JR	x

**ROUTE 2**

ITEM	LPI_CODE	PROPERTY INFORMATION	REGISTRATION DEVISION	ROUTE 2
1	TOJR00000000028800064	Portion 64 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	
2	TOJR00000000028800006	Portion 6 of the farm Boekenhoutskloof 288JR alias Tweefontein	JR	x
3		Performance Street Servitude diagram: 3601/2015001	JR	x
4	TOJR00000000028800017	Portion 17 of the farm Oog van Boekenhoutskloof 288JR alias Tweefontein	JR	x
5		R573/P207	JR	x
6	TOJR00000000033500002	Portion 2 of the Farm Beynespoort 335JR	JR	x
7		Road M8/M10	JR	x
8	TOJR00000000033500001	Portion 1 of the Farm Beynespoort 335JR	JR	x
9	TOJR00000000033500082	Portion 82 of the farm Beynespoort 335JR	JR	
10		Road R513 (Sefako Makgatho Drive)	JR	x
11	TOJR00000000033300026	Portion 26 of the farm Nooitgedacht 333JR	JR	x
12	TOJR00000000033300027	Portion 27 of the farm Nooitgedacht 333JR	JR	x
13	TOJR00000000033300028	Portion 28 of the farm Nooitgedacht 333JR	JR	x
14	TOJR00000000033300029	Portion 29 of the farm Nooitgedacht 333JR	JR	x
15	TOJR00000000033700027	Portion 27 of the farm Elandshoek 337JR	JR	x
16		Olienhoutweg	JR	x
17	TOJR00000000033600000	Remainder of the farm Carlsruhe 336JR	JR	

**2 ACTIVITY POSITION**

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**1 COORDINATES OF DEVELOPMENT PROPOSAL**

The GPS coordinates of the 11kV power line routes are as follows:

**Preferred Route 1**

- Length: 10 750 m / 10.75 km.
- Starting Point at T-off: 28,47375502 E; -25,6888243 S
- Middle Point: 28,461143 E; -25,651866 S
- End Point at Cavalier site: 28,48105368 E; -25,62704989 S

**Route 2**

- Length: 10 250 m / 10.25 km.
- Starting Point at T-off: 28,47375502 E; -25,68881485 S
- Middle Point: 28,462758 E; -25,651245 S
- End Point at Cavalier site: 28,48105284 E; -25,62705252 S

Co-ordinates every 250 m

Table : GPS Co-ordinates along the power lines - every 250 m

<b>ROUTE 1 (Proposal)</b>			
<b>Distance</b>		<b>Longitude (E)</b>	<b>Latitude (S)</b>
<b>(m)</b>		<b>Decimal Degrees</b>	<b>Decimal Degrees</b>
From T-off Point	0	28,47375502	-25,6888243
	250	28,47444505	-25,68684669
	500	28,47469485	-25,68517276
	750	28,47210757	-25,68514957
	1000	28,46956955	-25,68472233
	1250	28,46704318	-25,68424072
	1500	28,46460034	-25,6835976
	1750	28,46281599	-25,682214
	2000	28,46269826	-25,68004726
	2250	28,46258053	-25,67788055
	2500	28,4624628	-25,67571388
	2750	28,46234507	-25,67354725
	3000	28,46222734	-25,67138066
	3250	28,4621096	-25,6692141
	3500	28,46199187	-25,66704759
	3750	28,46187414	-25,66488111
	4000	28,46171646	-25,66271848
	4250	28,4612495	-25,66058535
	4500	28,46078254	-25,65845226
	4750	28,46031557	-25,6563192
	5000	28,45984861	-25,65418618
	5250	28,45999866	-25,65231865
Middle of Line	5375	28,461143	-25,651866
	5500	28,46234299	-25,65139515
	5750	28,46445181	-25,65017804
	6000	28,46614007	-25,6485397
	6250	28,46786061	-25,64692012
	6500	28,46985568	-25,64553979
	6750	28,47207652	-25,64443669
	7000	28,47451205	-25,6437111
	7250	28,47703665	-25,64322321
	7500	28,47956124	-25,64273533
	7750	28,48208584	-25,64224744
	8000	28,48458151	-25,64166858

	8250	28,48704851	-25,64101023
	8500	28,4894442	-25,64018427
	8750	28,48922313	-25,63832313
	9000	28,48873652	-25,63620502
	9250	28,48913939	-25,6340842
	9500	28,49026014	-25,63213237
	9750	28,4885873	-25,63100623
	10000	28,48623998	-25,63008824
	10250	28,48389265	-25,62917026
	10500	28,4815303	-25,62827986
Cavalier	10750	28,48105368	-25,62704989

<b>ROUTE 2 (Alternative)</b>			
<b>Distance</b>		<b>Longitude (E)</b>	<b>Latitude (S)</b>
<b>(m)</b>		<b>Decimal Degrees</b>	<b>Decimal Degrees</b>
From T-off Point	0	28,47375502	-25,68881485
	250	28,47167061	-25,68765451
	500	28,46951842	-25,6864467
	750	28,46736623	-25,6852389
	1000	28,46526492	-25,68398096
	1250	28,46311783	-25,68276689
	1500	28,46273054	-25,68072677
	1750	28,46261238	-25,67856006
	2000	28,46249423	-25,6763934
	2250	28,46237607	-25,67422677
	2500	28,46225792	-25,67206018
	2750	28,46213977	-25,66989363
	3000	28,46202161	-25,66772712
	3250	28,46190346	-25,66556065
	3500	28,46178531	-25,66339422
	3750	28,46138866	-25,66125427
	4000	28,46092386	-25,65912083
	4250	28,46045906	-25,65698744
	4500	28,45999427	-25,65485407
	4750	28,45952947	-25,65272075
	5000	28,46161357	-25,65168741
Middle of Line	5125	28,462758	-25,651245
	5250	28,46385381	-25,65063436
	5500	28,46563405	-25,64906868
	5750	28,46730594	-25,64741495
	6000	28,4691748	-25,64591735
	6250	28,47135686	-25,64476211
	6500	28,47371143	-25,6438571
	6750	28,476233	-25,64336845
	7000	28,47875918	-25,64288632
	7250	28,48128536	-25,64240419
	7500	28,48379497	-25,64186969
	7750	28,48627532	-25,64124269
	8000	28,48868391	-25,64044694
	8250	28,48946453	-25,63898152
	8500	28,48881489	-25,6368899



8750	28,48886785	-25,63473361
9000	28,489864	-25,63273624
9250	28,48978508	-25,63117438
9500	28,48742132	-25,63028767
9750	28,4850522	-25,62941001
10000	28,48270012	-25,62850073
Cavalier 10250	28,48105284	-25,62705252

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix.

The 21-digit Surveyor General code of each cadastral land parcel

PROPOSAL																					
ALT. 2																					
Addendum of Surveyor General codes attached											Refer to Section B: 1 Property description										

**3 GRADIENT OF THE SITE**

Indicate the general gradient of the site.

Flat X	1:50 – 1:20	1:20 – 1:15 X	1:15 – 1:10 X	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
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**4 LOCATION IN LANDSCAPE**

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	Side slope of hill/ridge	Valley	Plain X	Undulating plain/low hills X	River front
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**5 GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE**

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	YES	NO X
Dolomite, sinkhole or doline areas	YES	NO X
Seasonally wet soils (often close to water bodies)	YES X	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO X
Dispersive soils (soils that dissolve in water)	YES	NO X
Soils with high clay content (clay fraction more than 40%)	YES	NO X
Any other unstable soil or geological feature	YES	NO X
An area sensitive to erosion	YES	NO X

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)	YES	NO X
If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)		
Latitude (S):	Longitude (E):	
°	°	°

c) are any caves located within a 300m radius of the site(s)	YES	NO X
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If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)	
Latitude (S):	Longitude (E):
°	°

d) are any sinkholes located within a 300m radius of the site(s)	YES	NO X
If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)		
Latitude (S):	Longitude (E):	
°	°	

If any of the answers to the above are “YES” or “unsure”, specialist input may be requested by the Department

## 6 AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)?	YES	NO X
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The 18m corridor is open and not restricted for agricultural activities.

**Please note:** The Department may request specialist input/studies in respect of the above.

## 7 GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 60	Natural veld with scattered aliens % = 20	Natural veld with heavy alien infestation % = 0	Veld dominated by alien species % = 0	Landscaped (vegetation) % = 0
Sport field % = 0	Cultivated land % = 15	Paved surface (hard landscaping) % = 0	Building or other structure % = 5	Bare soil % = 0

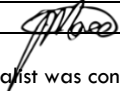
**Please note:** The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site	YES	NO X
If YES, specify and explain:		

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	YES	NO X
If YES, specify and explain:		
There are a number of Orange Data Listed plant species in the study area. These ODL plants are: <i>Hypoxis hemerocallidea</i> and <i>Boophone distichia</i> .		

Are there any special or sensitive habitats or other natural features present on the site?	YES X	NO
If YES, specify and explain:		
Some small watercourses, rocky quartzite hills		

Was a specialist consulted to assist with completing this section	YES X	NO
If yes complete specialist details		
Name of the specialist:	Johannes O. Maree (SACNASP Reg. No: 400077/91)	

Qualification(s) of the specialist:	MSc; MBA, Pr.Sci.Nat.			
Postal address:	PO Box 7222; Modimolle			
Postal code:	0510			
Telephone:	082 564 1211	Cell:	082 564 1211	
E-mail:	<a href="mailto:Johannes@flori.co.za">Johannes@flori.co.za</a>	Fax:	-	
Are any further specialist studies recommended by the specialist?			YES	NO X
If YES, specify:				
If YES, is such a report(s) attached?			YES	NO
If YES list the specialist reports attached below				
Biodiversity Impact Assessment				
Signature of specialist:			Date:	15 January 2022

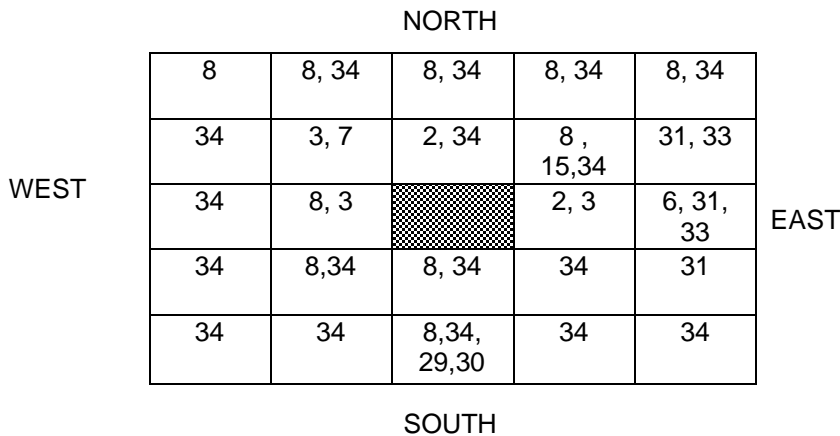
**Please note;** If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

### 8 LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial <sup>AN</sup>	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport <sup>N</sup>	23. Train station or shunting yard <sup>N</sup>	24. Railway line <sup>N</sup>	25. Major road (4 lanes or more) <sup>N</sup>
26. Sewage treatment plant <sup>A</sup>	27. Landfill or waste treatment site <sup>A</sup>	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam <sup>A</sup>	34. Small Holdings	
Other land uses (describe):				

**NOTE:** Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks



**Note:** More than one (1) Land-use may be indicated in a block

**Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise

impacts may be required for any feature above and in particular those features marked with an “A” and with an “N” respectively.

Have specialist reports been attached	YES X	NO
If yes indicate the type of reports below		
Biodiversity Assessment (Fauna & Flora)		
Avifauna Impact Assessment		
Heritage Impact Assessment		
Palaeontological Sensitivity Assessment		

## 9 SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

### Background

The project is situated in Region 5 of the City of Tshwane Metropolitan Municipality. Region 5 consists of the bulk of the former Nokeng Tsa Taemane Local Municipality, with the inclusion of a small area from the former Kungwini area in the south, and the exception a north western portion, that currently forms part of the newly formed Region 2.

The region is bordered by the Magaliesberg Mountain range and the N1 to the west and the N4 freeway to the south. Region borders on Mpumalanga to the east and Limpopo to the north. The newly formed region 2 is bound on region 5's western border, region 6 on the southern border and region 7 on the south eastern corner.

The region can be reached through N1 freeway which links it from the south to Centurion, Midrand and Johannesburg further south and Polokwane to the North. The N4 freeway entering through the east of the City to the region, gives access to Mpumalanga.

The N4 forms a dominant central mobility spine within the region; accessible from a regional point of view it is served by both north-south and east-west first order roads linking it to the rest of Gauteng and the broader region.

### Area

Region 5 is in extent 1 555 km<sup>2</sup> (one thousand five hundred and fifty five square kilometres). This is the region with the largest geographical area.

### Demographic Overview

Region 5 had a population of about 90 898 people according to 2011 Census.

### Population size and Composition

Only 14.2% people are economically active in the Region. The issue of youth unemployment is of great concern and must be addressed.

The rural population is approximately 15 000 people, and this figure excludes people living in informal settlements. The largest concentration of people in the rural areas is in the south western quadrant, close to Roodeplaas Dam where a population density of 1,6 persons/ha is indicated. In terms of income groups 39 % can be regarded as within the Low income group (monthly household income of less than R2000 rand a month).

### Regional Characteristics

Region 5 includes various communities with different needs and requirements. The spatial fabric ranges from urban areas such as Rayton, Cullinan and Refilwe, Sable Hills, Pebble Rock and rural residential areas such as the Roodeplaas Area, Onverwacht, agricultural land, conservancies, and areas having tourism potential. The area's diversity, one of its strengths, contributes to its unique character. The region's relative isolation from the pressures of urbanisation, that are evident in the sub-region, provides for the area's tourism potential. The area is close enough to be accessible, but far enough to provide for a sense of isolation and adventure. The area offers significant recreation, heritage and conservation assets. The southern boundary of the region experiences great development pressure especially in the Kameeldrift and Derdepoort area.

### Regional Profile

Region 5 has 3 Wards (Ward 89, 99 and 100) in Eersterus, Derdepoort, Cullinan, Rayton and Refilwe.

The majority of the power line route traverses Ward 100. Only a small section of the route, is situated in Ward 99.

**Social and Economic Infrastructure**

The power line corridor is situated in close proximity to the Cullinan area. Cullinan is a small town located 30 km east of the city of Pretoria along the diamond route and is heavily reliant on tourism and the mine that dominates the skyline. The town is named after diamond magnate Sir Thomas Cullinan.

The statistics for Cullinan are as follows:

Education	Percentage
No Schooling	1,5%
Some Primary	2,9%
Completed Primary	1,4%
Some Secondary	23,8%
Matric	44,1%
Higher Education	26,3%

Income	Percentage
No income	8,3%
R1 - R4,800	0,6%
R4,801 - R9,600	1%
R9,601 - R19,600	3,7%
R19,601 - R38,200	6,7%
R38,201 - R76,400	14,3%
R76,401 - R153,800	26,3%
R153,801 - R307,600	21,4%
R307,601 - R614,400	13,3%
R614,001 - R1,228,800	2,8%
R1,228,801 - R2,457,600	0,7%
R2,457,601+	0,9%

**Implications for development**

The proposed activity will provide support to electrical infrastructure that will contribute to sustainable economic growth, provide for sustainable human settlements and support industry.

Eskom Holdings SOC Ltd is mandated by the South African Government to ensure the provision of reliable and affordable power to South Africa. Eskom's core business is in the generation, transmission (transport), trading and retail of electricity. The reliable provision of electricity by Eskom is critical for industrial development and related employment and sustainable development in South Africa. As electricity cannot practically be stored on a significant scale, power is generated and delivered over long distances at the instant that it is required. In South Africa, thousands of kilometres of high voltage Transmission lines (i.e. 765kV,

400kV and 275kV Transmission lines) transmit this power to Eskom's major substations. At these major substations, the voltage is down-rated and distributed to smaller substations all over the country via Distribution lines (e.g. 132kV, 88kV and 66kV power lines). Here the voltage is down-rated further for distribution to industry, business, farms and homes. In order to maintain a reliable power supply within the entire network, the voltages at all substations are required to be within certain desired limits. If the network is operated at voltages which are below these limits, voltage collapse problems and power outages may be experienced.

The proposed project is required to supply Cavalier Abattoir with electricity at 11kV for its operations. If the supply line is not available the abattoir will not be able to continue at full capacity with operations to produce its products for exporting and the local market.

**10 CULTURAL/HISTORICAL FEATURES**

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-
- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
  - (b) the construction of a bridge or similar structure exceeding 50m in length;
  - (c) any development or other activity which will change the character of a site-
    - (i) exceeding 5 000 m2 in extent; or
    - (ii) involving three or more existing erven or subdivisions thereof; or
    - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
    - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
  - (d) the re-zoning of a site exceeding 10 000 m2 in extent; or
  - (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

If YES, explain	YES X	NO
<p>Refer to Appendix G2.</p> <p>Beyond Heritage was appointed to conduct a Heritage Impact Assessment (HIA) for the project and the study area was assessed on desktop level and by a non-intrusive pedestrian field survey. Key findings of the assessment include:</p> <ul style="list-style-type: none"> <li>➤ The impact to heritage resources is low and the project can commence provided that the recommendations in this report are adhered to, based on the South African Heritage Resource Authority (SAHRA) 's approval.</li> <li>➤ A cemetery located more than 30 meters away from the line was recorded during the survey but will not be impacted on.</li> <li>➤ The study area is of insignificant to moderate paleontological sensitivity and an independent assessment by Prof Marion Bamford concluded that the impact on the palaeontological heritage would be very low so as far as the palaeontology is concerned the project should be authorised.</li> </ul> <p>Recommendations:</p> <ul style="list-style-type: none"> <li>➤ Known sites and the recorded cemetery should be indicated on development plans and avoided with a 30-meter buffer zone;</li> <li>➤ Implementation of a chance find procedure for the project.</li> <li>➤ Weekly monitoring of pylon excavation areas during the pre-construction and construction phase by the ECO.</li> </ul> <p>Mitigation:</p> <p>Should construction work begin for this project:</p> <ul style="list-style-type: none"> <li>➤ The developer should note that due to the nature of archaeological material, such sites, objects or features, as well as graves and burials may be uncovered during construction activities on site.</li> <li>➤ Should any archaeological sites, artefacts, paleontological fossils or graves be exposed during construction work, work must be stopped immediately, the relevant heritage resources agency must be informed and the services of an accredited heritage professional must be obtained for an assessment of the heritage resources.</li> </ul>	X	

➤ Known sites and the recorded cemetery should be indicated on development plans, demarcated during construction, and avoided.

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:  
Refer to the above

Will any building or structure older than 60 years be affected in any way?	YES	NO X
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO X
If yes, please attached the comments from SAHRA in the appropriate Appendix.		

## SECTION C: PUBLIC PARTICIPATION

### 1 PUBLIC PARTICIPATION PROCESS

The Environmental Assessment Practitioner must conduct public participation process in accordance with the requirement of the EIA Regulations, 2014.

### 2 CONSULTATION WITH COMPETENT AUTHORITY

The Gauteng Department of Agriculture and Rural Development (GDARD) has decided that for every new application for Environmental Authorisation or an application for amendment of a valid Environmental Authorisation; where Public Participation must be conducted, it is a requirement of this Department that a Public Participation Plan (PPP) is approved prior to lodging the application.

On 23/11/2021 the Public Participation Plan for this project has been accepted. Communication with GDARD attached as *Appendix E4*.

### 3 LOCAL AUTHORITY PARTICIPATION

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?	YES X	NO
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If yes, has any comments been received from the local authority? <i>Comment pending</i>	YES X	NO
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If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):		
Comment was requested to the draft BA Report – this document.		

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.		
Comment to be provided to the Draft BAR – this document.		

### 4 CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least thirty (30) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?	YES X	NO
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If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):		
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Written comment was received in the notification phase from:

- Cullinan Diamond Mine registered as Interested and Affected Party.
- Farm Beynespoort 47/335 commented that they propose the line route to be on the opposite side of the road. Subsequently they commented verbally that they will support the line route as long as the tree on their northern border is not affected.
- Sasol Satellite Operations will not be affected by the project.
- Farm Nooitgedacht 27/333 registered as Interested and Affected Party.
- Farm Nooitgedacht 28/333 registered as Interested and Affected Party.
- Farm Beynespoort 19/335 registered as Interested and Affected Party.
- Farm Karlsruhe RE/336 registered as Interested and Affected Party.
- Eskom Distribution Gauteng Operating Unit registered as Interested and Affected Party. They advised that the following Eskom Distribution services are affected: Esselen/Pelly 275kV Conductor; Bynes/Kameel 11kV Conductor; Bynes/Dolomite (2) 88kV Conductors. They identified the contacts at Eskom Cullinan Technical Service Centre.
- Farm Oog van Boekenhoutskloof 64/288 commented that there is already an existing feeder to Cavalier on their farm and they requested confirmation of the locality of the laydown area.

Refer to Appendix E6.

If "NO" briefly explain why no comments have been received  
N/a

**5 GENERAL PUBLIC PARTICIPATION REQUIREMENTS**

The Environmental Assessment Practitioner must ensure that the public participation process is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Response Report as prescribed in the regulations and be attached to this application.

**Public Participation Activities Undertaken**

Refer to table below for details of the public participation tasks that have been undertaken to date.

Activity	Description and Purpose
<b>Pre-Application</b>	
Preparation of a preliminary stakeholder database	A preliminary database has been compiled of authorities (local and provincial), Non-Governmental Organisations, land owners/users and other key stakeholders. This database of registered I&APs will be maintained and updated during the ongoing BA process. (refer to Appendix E9).
Preparation and Distribution of a Background Information Document (BID)	On 23/11/2021 BIDs and registration forms were distributed via email to all I&APs on the database. Engagement with land owners on the line route alignment took place on an individual basis. The BID provides an introduction to the Project and the BA process. Due date for comment was 14/01/2022. See Appendix E2 for proof of written submissions.
Advertisement of the Project and Erection of Site Notices	The Project was advertised on 23-11-2021 in the National newspaper, Beeld. See proof of Advertisement in Appendix E3. Site notices were placed on 23-11-2021 along the proposed power line route alignment. See proof of placement in Appendix E1.
Development of an Initial Comments and Response Report	All comments received during the initial consultation period were recorded in a Comments and Response Report. See proof of written comments received in the notification phase included as Appendix E6.
<b>BA Phase</b>	

Release of draft Basic Assessment Report for Public Comment	The draft BA Report was released for the required 30-day public comment period: 01/02/2022 to 03/03/2022. Notifications were submitted to all stakeholders on the database including details on how to engage in providing comment. Electronic copies could be downloaded, via a link from the Setala website.
Development of a Comments and Response Report	All comments received to be recorded into a Comments and Response Report, <i>Appendix E5</i> .
Public Review	The COVID-19 Epidemic has a significant impact on the undertaking of EIA processes and in specific the Public Participation Processes. In order to comply with social distancing policies, the opportunity to partake in the Public Participation Process, without face-to-face contact, is provided. The I&APs are provided with various options to provide comment / request more information. In writing, via fax or email, and verbally, via telephone calls, text messages, WhatsApp, zoom or teams sessions. Engagements to be held virtual via teams/zoom, telephone conversations, text messages etc. All comments received, along with responses, included in the final BAR as <i>Appendix E7</i> .
Submission of final Basic Assessment Report to Environmental Authority	Subsequently the final BAR to be submitted to GDARD. The final BAR to include all concerns raised to the DBAR, and the responses thereto.
<b>Environmental Decision</b>	
Notification of Environmental Decision	I&APs will be notified of the Environmental Decision and the statutory appeal period.

## 6 APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below:

- Appendix 1 – Proof of site notice
- Appendix 2 – Written notices issued as required in terms of the regulations
- Appendix 3 – Proof of newspaper advertisements
- Appendix 4 – Communications to and from interested and affected parties
- Appendix 5 – Minutes of any public and/or stakeholder meetings
- Appendix 6 – Comments and Responses Report
- Appendix 7 – Comments from I&APs on Basic Assessment (BA) Report
- Appendix 8 – Comments from I&APs on amendments to the BA Report
- Appendix 9 – Copy of the register of I&APs

## SECTION D: RESOURCE USE AND PROCESS DETAILS

**Note:** Section D is to be completed for the proposal and alternative(s) (if necessary)

**Instructions for completion of Section D for alternatives**

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 2) Each alternative needs to be clearly indicated in the box below
- 3) Attach the above documents in a chronological order

Section D has been duplicated for alternatives	<b>0</b>	times
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(complete only when appropriate)

Section D Alternative No.	Proposal and Alternative 1	(complete only when appropriate for above)
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### 1 WASTE, EFFLUENT, AND EMISSION MANAGEMENT

**Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?	YES X	NO
If yes, what estimated quantity will be produced per month? The construction phase will create small quantities of contractor's and domestic waste to be accommodated by local legal landfill sites.	Not known at this stage m <sup>3</sup>	
How will the construction solid waste be disposed of (describe)?		
<ul style="list-style-type: none"> <li>All measures regarding waste management shall be undertaken using an integrated waste management approach;</li> <li>Develop a central waste temporary holding site to be used during construction. This site should comply with the following:                             <ul style="list-style-type: none"> <li>Skips for the containment and disposal of waste that could cause soil and water pollution, i.e. paint, lubricants, etc.;</li> <li>Small lightweight waste items should be contained in skips with lids to prevent wind littering;</li> <li>Bunded areas for containment and holding of dry building waste.</li> <li>These areas shall be predetermined and located in areas that is already disturbed.</li> <li>These areas shall not be in close proximity of any watercourse.</li> <li>Sufficient, covered waste collection bins (scavenger and weatherproof) shall be provided;</li> <li>A suitably positioned and clearly demarcated waste collection site shall be identified and provided;</li> <li>The waste collection site shall be maintained in a clean and orderly fashion;</li> <li>Waste shall be segregated into separate bins and clearly marked for each waste type;</li> <li>Staff shall be trained in waste segregation;</li> <li>Recycling of waste types shall be maximised;</li> <li>Bins shall be emptied regularly;</li> <li>General waste shall be disposed of at recognised and registered waste disposal sites/ recycling company;</li> <li>Hazardous waste shall be disposed of at a registered waste disposal site;</li> <li>Certificates of disposal for general, hazardous and recycled waste shall be maintained;</li> <li>Under no circumstances shall any waste be disposed of, burned or buried on site.</li> </ul> </li> </ul>		

Where will the construction solid waste be disposed of (describe)?		
Waste generated during the construction activities will be collected by the trucks of the appointed contractor and disposed of at a Municipal landfill facility. A refuse area will be accommodated on site and waste will be disposed of at the municipal dumping site as per the requirements of the Municipal Health Bylaws. A letter of agreement between the developer and the Permit Holder of the waste disposal site to be kept on site. These above measures are included as requirements in the EMPr under the heading "Solid and hazardous waste management". Also refer to the other mitigation measures under the same heading.		

Will the activity produce solid waste during its operational phase?	YES	NO X
If yes, what estimated quantity will be produced per month?		

How will the solid waste be disposed of (describe)?		
Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?	YES	NO X
Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?		
N/A		

**Note:** If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	NO X
If yes, inform the competent authority and request a change to an application for scoping and EIA.		

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO X
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

Waste Minimisation and Recycling

Waste separation and recycling can generate jobs as well as removing recyclable resources from landfill. Individuals and recycling cooperatives can collect and separate wastes and sell recyclable materials. Buyback centres can be established in neighbourhoods, where recyclers can buy recyclable materials for reprocessing. Organic materials can also be separated and made into compost, adding nutrients to soil for agricultural production and greening.

**Liquid effluent (other than domestic sewage)**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO X
If yes, what estimated quantity will be produced per month?	N/A m <sup>3</sup>	
If yes, has the municipality confirmed that sufficient capacity exists for treating / disposing of the liquid effluent to be generated by this activity(ies)?	YES	NO

Will the activity produce any effluent that will be treated and/or disposed of onsite?	Yes	NO X
If yes, what estimated quantity will be produced per month?	N/A m <sup>3</sup>	

If yes describe the nature of the effluent and how it will be disposed.

N/A

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	NO X
If yes, provide the particulars of the facility: N/A		
Facility name:		
Contact person:		
Postal address:		
Postal code:		
Telephone:	Cell:	
E-mail:	Fax:	
Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:		
N/A		

**Liquid effluent (domestic sewage)**

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	YES	NO X
<ul style="list-style-type: none"> <li>On-site chemical toilets will be provided for domestic purposes during construction phase.</li> <li>The contractors will be responsible for the maintenance of the chemical toilets.</li> </ul>		

<ul style="list-style-type: none"> <li>No temporary facilities or portable toilets to be setup within 50m of any watercourse.</li> <li>No French drain systems may be installed.</li> <li>Should any spills or incidents occur; the material will be cleaned up immediately and disposed of appropriately.</li> <li>All incidents must be reported to the responsible site officer as soon as it occurs.</li> </ul>		
If yes, what estimated quantity will be produced per month?	m <sup>3</sup>	
If yes, has the municipality confirmed that sufficient capacity exists for treating / disposing of the domestic effluent to be generated by this activity(ies)?	YES	NO

Will the activity produce any effluent that will be treated and/or disposed of onsite?	YES	NO X
If yes describe how it will be treated and disposed of.		

**Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?	YES X	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO X
If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.		
If no, describe the emissions in terms of type and concentration:		
<p>Limited dust emissions are expected as result of the construction phase activities. Mitigating measures are proposed and included in the EMPr to limit impact. Dust and emissions during construction generated by debris handling and debris piles, truck transport, bulldozing, general construction.</p> <ul style="list-style-type: none"> <li>Dust must be suppressed on the construction site and during the transportation of material during dry periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off.</li> <li>Loads could be covered to avoid loss of material in transport, especially if material is transported off site.</li> <li>A speed limit of 40 km/hr should be set for all vehicles travelling over exposed areas.</li> <li>During the transfer of materials, drop heights should be minimised to control the dispersion of matter being transferred.</li> <li>The height of all stockpiles on site should be a maximum of 2m.</li> <li>Use of dust retardant road surfacing if made necessary due to the exceedance of Air Quality Guidelines.</li> </ul>		

**2 WATER USE**

Indicate the source(s) of water that will be used for the activity

Municipal	Directly from water board	groundwater	river, stream, dam or lake	other	the activity will not use water X
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate	
the volume that will be extracted per month:	N/A liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix		
Does the activity require a water use permit from the Department of Water Affairs?	YES	NO X
If yes, list the permits required		
If yes, have you applied for the water use permit(s)?	YES	NO
If yes, have you received approval(s)? (attached in appropriate appendix) Application in process	YES	NO

Relevant to this project:

- The water used to supply the site with potable water is sourced/purchased from landowners in the area with pre-existing rights. The contractor should deliver the water to the site in an applicable water tanker. These requirements are included in the EMPr under the headings "Site establishment" and "Water supply management".
- The water used during construction is minimal.
- According to the applicant and their contractors, dust suppression is not required due to the following reasons:

- The servitude areas receive minimal bush clearance. Indigenous vegetation which does not interfere with the safe operation of the power line is left undisturbed. Further to the above, vegetation is not ploughed, but mowed and therefore no areas are left without vegetation cover.
- In terms of access roads, existing roads are used and the impact to these roads is insignificant. The reason is that construction material is minimal (a pylon - planted approximately 160m apart, cement - to plant the pylon, and cable - for the overhead wires). Therefore a small number, of construction vehicles deliver the material to the site. Speed of above 30km/hour will not be exceeded. A limited/ insignificant amount of dust is therefore emitted in the atmosphere. In other words, there will be no significant construction, ground-clearing, levelling or grading of soils, moving or compacting of soils which are often associated with other forms of construction, but not with erecting of powerlines.

### 3 POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

N/A

The project entails the construction of facilities for the distribution of power.

If power supply is not available, where will power be sourced from?

N/A

### 4 ENERGY EFFICIENCY

N/A.

The project entails the construction of a distribution power line for an existing Eskom client.

## SECTION E: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts as well as the impacts of not implementing the activity (Section 24(4)(b)(i)).

### 1 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Summary of main issues raised by I&APs	Summary of response from EAP
Distribution Gauteng Operating Unit registered as Interested and Affected Party. They advised that the following Eskom Distribution services are affected: Esselen/Pelly 275kV Conductor; Bynes/Kameel 11kV Conductor; Bynes/Dolomite (2) 88kV Conductors.	Noted.
Sasol Satellite Operations will not be affected by the project.	Noted. Not affected.
Several land owners registered as Interested and Affected Parties.	Noted.

(A full response must be provided in the Comments and Response Report that must be attached to this report):

### 2 IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

The potential impacts of the proposed development were identified through a desktop study, site visits, specialist studies and comments received during the public participation process. It is evident that the biggest impact of the project on the environment is expected to occur during the construction phase. It is expected that with the proposed mitigation of impacts and the implementation of the Environmental Management Program, the expected negative impact could be mitigated to acceptable measures.

#### METHODOLOGY UTILISED IN THE RATING OF SIGNIFICANCE OF IMPACTS

The potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- **Nature:** A brief written statement of the environmental aspect being impacted upon by a particular action or activity.
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration:** Indicates what the lifetime of the impact will be;
- **Intensity:** Describes whether an impact is destructive or benign;
- **Probability:** Describes the likelihood of an impact actually occurring; and
- **Cumulative:** In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

TABLE 1: CRITERIA TO BE USED FOR RATING OF IMPACTS

Criteria	Description			
<b>Extent</b>	<b>National (4)</b> The whole of South Africa	<b>Regional (3)</b> Provincial and parts of neighbouring provinces	<b>Local (2)</b> Within a radius of 2 km of the construction site	<b>Site (1)</b> Within the construction site
<b>Duration</b>	<b>Permanent (4)</b> Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient	<b>Long-term (3)</b> The impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory	<b>Medium-term (2)</b> The impact will last for the period of the construction phase, where after it will be entirely negated	<b>Short-term (1)</b> The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase
<b>Intensity</b>	<b>Very High (4)</b> Natural, cultural and social functions and processes are altered	<b>High (3)</b> Natural, cultural and social functions and processes are altered	<b>Moderate (2)</b> Affected environment is altered, but natural, cultural and social functions and processes	<b>Low (1)</b> Impact affects the environment in such a way that natural, cultural and social

	to extent that they permanently cease	to extent that they temporarily cease	continue albeit in a modified way	functions and processes are not affected
<b>Probability of occurrence</b>	<b>Definite (4)</b> Impact will certainly occur	<b>Highly Probable (3)</b> Most likely that the impact will occur	<b>Possible (2)</b> The impact may occur	<b>Improbable (1)</b> Likelihood of the impact materialising is very low

Significance is determined through a synthesis of impact characteristics. Significance is an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact.

**TABLE 2: CRITERIA FOR THE RATING OF CLASSIFIED IMPACTS**

<b>Low impact (4 - 6 points)</b>	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.
<b>Medium impact (7 - 9 points)</b>	Mitigation is possible with additional design and construction inputs.
<b>High impact (10 - 12 points)</b>	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.
<b>Very high impact (13 - 20 points)</b>	Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw.
<b>Status</b>	Denotes the perceived effect of the impact on the affected area.
<b>Positive (+)</b>	Beneficial impact.
<b>Negative (-)</b>	Deleterious or adverse impact.
<b>Neutral (/)</b>	Impact is neither beneficial nor adverse.
It is important to note that the status of an impact is assigned based on the status quo – i.e. should the project not proceed. Therefore not all negative impacts are equally significant.	

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

**1 PLANNING AND DESIGN PHASE**

Route 1 (PROPOSAL)				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
<p><b>Impact on the Natural Habitat Design</b></p> <p>Insensitive design of the power line routes can cause a negative impact on the natural habitat of not only the site itself, but also on the surrounding natural environment. The context of the development site/route corridor within the macro area in terms of conservation areas also plays a major role when suitable areas for development are being considered. The development site/route corridor (or parts thereof) could form part of important ecological corridors and such corridors could be destroyed if the functioning thereof is not being supported by the development proposal.</p> <p><u>The development site</u></p> <p>There are no 'high' sensitive habitats present on site. The sensitive areas in the study area are the few small watercourses and the rocky hills in the north of the Cullinan Game Farm (south of the R573. The ecological impacts of the two power line route alternatives are similar.</p>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>Site-specific measures in terms of biodiversity as identified by Johannes Maree (Tel 082 564 1211), must be included in the contract with the Contractor and implemented by the Contractor during the construction phase.</li> <li>The proposed Powerline Route is Alternative 1, due to slightly lower impacts. Route 1 is recommended only because it follows the existing road and power line within the first kilometre from the T-off point in the south, while Route 2 crosses through more open veld and drainage area.</li> <li>The laydown area is proposed to be on the site of Cavalier Foods.</li> </ul>	NEGATIVE LOW	LOW
<p><b>Impact on Cultural Heritage Resources</b></p>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>Known sites and the recorded cemetery should be indicated on development plans and avoided with</li> </ul>	NEGATIVE LOW	LOW



A cemetery located more than 30 meters away from the line was recorded during the survey but will not be impacted on. Neither Route 1 nor 2 impacts on any known heritage resources.		a 30-meter buffer zone from any ground disturbing activities.		
<b>INDIRECT IMPACTS</b>				
No indirect impacts were identified during the planning and design phase.				
<b>CUMULATIVE IMPACTS</b>				
The impacts of Route Alternatives 1 and 2 are similar, however those of Alternative 2 are still slightly higher and each impact, however slight, still results in an increase in the cumulative negative impacts. The cumulative negative impact on the study site itself is 'Very Low'. There will be no loss of any unique habitats, fauna or flora.	NEGATIVE LOW		NEGATIVE LOW	LOW

<b>Route Alternative 2</b>				
<b>DIRECT IMPACTS</b>				
<b>Impact on the Natural Habitat</b> Impacts as described under Proposal above are applicable to Alternative. Insensitive design of the power line route can cause a negative impact on the natural habitat of not only the site itself, but also on the surrounding natural environment. <u>The development site</u> As mentioned, Route 1 is recommended only because it follows the existing road and power line within the first kilometre from the T-off point in the south, while Route 2 crosses through more open veld and drainage area. Therefore, although the impacts are similar, those of Alternative 2 are still slightly higher.	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>Site-specific measures in terms of biodiversity as identified by Johannes Maree (Tel 082 564 1211), must be included in the contract with the Contractor and implemented by the Contractor during the construction phase.</li> </ul>	NEGATIVE MEDIUM	MEDIUM
<b>INDIRECT IMPACTS</b>				
No indirect impacts were identified during the planning and design phase.				
<b>CUMULATIVE IMPACTS</b>				
The impacts of Route Alternatives 1 and 2 are similar, however those of Alternative 2 are still slightly higher and each impact, however slight, still results in an increase in the cumulative negative impacts..				

<b>NO GO ALTERNATIVE</b>				
<b>DIRECT IMPACTS</b>				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented

No direct impacts were identified during the planning and design phase.				
<b>INDIRECT IMPACTS</b>				
No indirect impacts were identified during the planning and design phase.				
<b>CUMULATIVE IMPACTS</b>				
No cumulative impacts were identified during the planning and design phase.				

**2 CONSTRUCTION PHASE**

Route 1 (PROPOSAL)				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
<p><b>Impact on the vegetation</b></p> <p>This impact is associated with disturbance to and/or destruction of the flora component.</p> <p>During construction the activities could cause a negative impact where insensitive clearing for construction and access purposes, etc. is required. Insensitive clearing can cause the destruction of habitat. Not only does vegetation removal represent a loss of seed and organic matter, but it is also a loss of protection to plants and small animals. Insensitive vegetation clearance can also cause erosion.</p> <p>Pressure on the natural environment will occur as a result of an influx of labourers into the area that could involve the collection of firewood and medicinal plants, as well as uncontrolled veld fires.</p> <p><u>The development site</u></p> <p>Although the majority of the power line route runs through a demarcated CBA area, this CBA area in reality is not ecologically sensitive. It is demarcated most likely on the grounds that it is Marikana Thornveld (which is a threatened veldtype / ecosystem). However, within the area of the power line routes there are no protected trees, RDL plants, etc. and much of the route in the CBA, which is in the Cullinan Game Farm, is open treeless</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• Detail mitigation measures are stipulated in the EMPr and include the following:</li> <li>• Ensure as small a footprint as possible during the construction phase.</li> <li>• All hazardous materials inter alia paints, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the natural environment and especially the water environment.</li> <li>• All excess materials brought onto site for construction to be removed after construction, but as part of the construction phase.</li> <li>• The laydown area is proposed to be on the site of Cavalier Foods.</li> <li>• Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site.</li> <li>• Rehabilitation plan for disturbed temporary set up areas to be compiled and implemented as part of the construction phase.</li> <li>• Special attention must be given to the rehabilitation of temporary construction and set up areas.</li> <li>• Re-seeding of bare areas with local indigenous grasses to be part of the rehabilitation plan. No exotic species to be used for rehabilitation.</li> <li>• Only existing gravel / sand roads to be used by heavy vehicles during the construction phase.</li> <li>• Access roads to be maintained at all times.</li> <li>• Two national protected trees were observed in the region, namely Leadwood (<i>Combretum imberbe</i>) and Marula (<i>Sclerocarya birrea</i>). It is fairly likely that some of these trees will need to be removed / destroyed. A tree permit will be required.</li> </ul>	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

<p>grassland and not dense or characteristic thornveld. However, the CBA area has been demarcated as having a sensitivity of 'Medium' as per the ecological sensitivity assessment.</p>		<ul style="list-style-type: none"> <li>• There are Orange Data Listed plants in the study area: Hypoxis hemerocallidea and Boophone distichia.</li> <li>• Any directly within the pole position must be lifted and relocated to a nearby, similar habitat. A plant permit will be required.</li> </ul>		
<p><b>Impacts on avifauna</b></p> <p>Disturbance Collisions Electrocutions</p> <p><u>The development site</u> The study site is not within any priority areas, including Important Birds Areas (IBAs). There are also no protected areas within a 5km radius of the study site. However, a third of the study area is within a well-established private game reserve.</p> <p>The main watercourse in the study area is the Roodeplaatspruit. There are other watercourses and small drainage lines .</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• Bird Flight Diverters (BFDs) must be installed in the areas indicated within the report. These areas include high-risk bird sensitive areas such as watercourse crossings and rocky ridges / hilltops where there is pristine bushveld, along with the elevated power line which creates potential collisions / bird-strikes.</li> <li>• Bird Flight Diverters (BFDs) must be installed across the length of the highlighted sensitive areas. That is, areas with a high potential risk of power line collisions.</li> <li>• Additional insulation is recommended for the live components at the top of the structures as multiple vultures may roost on the pole top simultaneously, increasing the risk of electrocution.</li> <li>• No interaction is allowed with any birds, even common species.</li> <li>• Should a nest be found during the construction phase, work in that particular spot must be halted and a bird specialist consulted. Any nesting sites found should be cordoned off with tape and signs and declared a 'no-go' zone.</li> <li>• If the nest is within the actual servitude it might be able to be relocated, depending on the species and the advice from the bird specialist.</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p><b>Impacts on fauna</b></p> <ul style="list-style-type: none"> <li>• Noise and vibration during construction</li> <li>• Loss of habitat</li> </ul> <p><u>The Development site</u> Priority faunal species (which includes red data species) were encountered during field investigations. Much of the proposed power line, approximately 4 km (or one third), runs through the Cullinan Game Farm, in which there are numerous species of wild fauna, including medium and large mammals. Within the study area and the game reserve are a variety of habitats ideal for various faunal species.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).</li> <li>• No poaching of wildlife or selling of firewood will be allowed.</li> <li>• No animals or birds may be fed, disturbed, hunted or trapped.</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p><b>Impact on Water Sources</b></p> <p>During construction, the risk of pollution of surface and groundwater can generally be related to diesel, oil and concrete spills that may result in a change in water quality with the associated negative impact on humans and the</p>	<p>NEGATIVE HIGH</p>	<ul style="list-style-type: none"> <li>• Mitigation measures in the Environmental Management Programme include measures to ensure acceptable construction practices to minimise or avoid the risk of contamination of water sources. These include: <u>Construction Site</u></li> </ul>	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

<p>natural habitat. Groundwater pollution during the construction phase is also associated with poor construction techniques. Diesel, oil and lubricant spills are the main concern in respect of water pollution during construction together with organic pollution caused by inadequately managed facilities at the work sites.</p> <p><u>The development site</u> The main watercourse in the study area and surrounding region is the Roodeplaatspruit (which is also known as the Premiermyloop). The spruit (stream) flows in a northwesterly direction through the Cullinan Game Farm and study area. There are also a few small watercourses within the study area. The power line can easily jump these.</p>		<ul style="list-style-type: none"> <li>• No heavy vehicles are allowed to drive through watercourses, unless on existing gravel and farm roads.</li> <li>• 32m Buffer Zones (No-Go Zones) from the edge of all watercourses must be implemented and strictly enforced. No power line poles / pylons may be planted within these buffer zones.</li> <li>• A 20m buffer zone is recommended in the area where the power line comes into close proximity of a watercourse, even if it does not cross it.</li> <li>• No temporary facilities or portable toilets to be setup within 100m of any watercourse and associated riparian zone and floodplains, including streams, drainage lines and wetlands.</li> <li>• No temporary accommodation or temporary storage facilities may be setup within 100m of the any watercourse.</li> <li>• The laydown area is proposed to be on the site of Cavalier Foods.</li> <li>• No excess excavated soils may be stockpiled within natural grassland areas.</li> <li>• Ensure as small a footprint as possible during the construction phase.</li> <li>• All hazardous materials inter alia paints, turpentine and thinners must be stored appropriately to prevent these contaminants from entering the natural environment and especially the water environment.</li> <li>• During and after construction, stormwater control measures should be implemented especially around stockpiled soil, excavated areas, trenches etc. so that export of soil into any watercourse is avoided.</li> </ul> <p><u>Diesel, hydraulic fluid and lubricants</u></p> <ul style="list-style-type: none"> <li>• Minimise on-site storage of petroleum products;</li> <li>• Ensure measures to contain spills readily available on site (spill kits).</li> <li>• All petrochemical leaks and spills must be appropriately contained and disposed of at a licensed waste disposal site.</li> </ul> <p><u>Construction Vehicles</u></p> <ul style="list-style-type: none"> <li>• All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability. No repairs may be undertaken beyond the contractor laydown area.</li> <li>• Should any transfer of vehicle fuel take place on site, it is important to demarcate a specific area for this purpose. This area should be covered with an impermeable layer to prevent any penetration of fuel and oil spillage into the soil. The area could also be sloped towards an oil trap or sump to ease collection of spilled substances.</li> <li>• All construction vehicles should be serviced on a regular basis to minimise the risk of oil spillage on site.</li> </ul>		
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<p><b>Topographical Impacts</b></p> <p>Alteration of topography due to stockpiling of soil, building material and debris and waste material on site.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• All stockpiles must be restricted to designated areas and are not to exceed a height of 2 metres.</li> <li>• Stockpiles created during the construction phase are not to remain during the operational phase.</li> <li>• The contractor must be limited to clearly defined access routes to ensure</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>

		that sensitive and undisturbed areas are not disturbed.		
<p><b>Impact of erosion</b></p> <p>Unnecessary clearing of vegetation can result in exposed soil prone to erosive conditions. Insufficient soil coverage after placing of topsoil especially during construction where large surface areas are applicable could also cause erosion. To cause the loss of soil by erosion is an offence under the law.</p> <p><u>The development site</u> The topography of the region is that of undulating plains and hills. From the T-off point in the south the power line route is fairly flat with slight undulations until it goes up over and between two hills in the area just south of the R578 (M8), in the Premier Mine Nature Reserve. The hill to the west is Beynespoort Hill. There are a few small plateaus in the north / northeast of the site, along the R578 (M8) that the power line route climbs up and runs along.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• A combination of erosion prevention principles is discussed in detail in the EMP. These include the use of mulch / fertiliser, matting, vegetation, retaining walls, topsoil coverage, diversion channels and berms, etc.</li> <li>• Other factors which should be taken into account during the construction phase are the following:</li> <li>• Unnecessary clearing of flora resulting in exposed soil prone to erosive conditions should be avoided.</li> <li>• Land disturbance must be minimized in order to prevent erosion and run-off - this includes leaving exposed soils open for a prolonged period of time. As soon as vegetation is cleared (including alien) the area must be re-vegetated.</li> <li>• Large exposed areas during the construction phases should be limited. Where possible areas earmarked for construction during later phases should remain covered with vegetation coverage until the actual construction phase. This will prevent unnecessary erosion and siltation in these areas.</li> <li>• The total area of exposed soil must be reduced during the rainy season.</li> <li>• Specifications for topsoil storage and replacement to ensure sufficient soil coverage as soon as possible after construction must be implemented.</li> <li>• Rehabilitation plan for disturbed temporary set up areas to be compiled and implemented as part of the construction phase.</li> <li>• Special attention must be given to the rehabilitation of temporary construction and set up areas.</li> <li>• Re-seeding of bare areas with local indigenous grasses to be part of the rehabilitation plan. No exotic species to be used for rehabilitation.</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p><b>Soils Impacts</b></p> <p>Removal and compaction of soil during construction activities. Erosion, degradation and loss of topsoil due to construction activities as well as surface and stormwater run-off.</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• Strip topsoil prior to any construction activities.</li> <li>• Reuse topsoil to rehabilitate disturbed areas.</li> <li>• Topsoil must be kept separate from overburden and must not be used for building purposes or maintenance or access roads.</li> <li>• Minimise the clearance of vegetation to avoid exposure of soil.</li> <li>• Protect areas susceptible to erosion with mulch or a suitable alternative.</li> <li>• Implement the appropriate topsoil and stormwater runoff control management measures as per the EMP to prevent the loss of topsoil.</li> <li>• Topsoil should only be exposed for minimal periods of time and adequately stockpiled to prevent the topsoil loss and run-off.</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p><b>Air Quality Impacts</b></p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• Dust must be suppressed on the construction site and during the transportation of material during dry</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>

<p>Dust and emissions during construction generated by debris handling and debris piles, truck transport, bulldozing, general construction.</p>		<p>periods by the regular application of water. Water used for this purpose must be used in quantities that will not result in the generation of run-off.</p> <ul style="list-style-type: none"> <li>• Loads could be covered to avoid loss of material in transport, especially if material is transported off site.</li> <li>• Dust and mud should be controlled at vehicle exit and entry points to prevent the dispersion of dust and mud beyond the site boundary.</li> <li>• A speed limit of 40 km/hr should be set for all vehicles travelling over exposed areas.</li> <li>• During the transfer of materials, drop heights should be minimised to control the dispersion of mater being transferred.</li> <li>• The height of all stockpiles on site should be a maximum of 2m.</li> <li>• Use of dust retardant road surfacing if required due to the exceedance of Air Quality Guidelines.</li> </ul>		
<p><b>Impacts associated with construction activities such as noise, and safety</b></p> <p>The negative impact of noise, generally associated with construction activities, are temporary, occurring mostly during the construction phase. In terms of safety, it should be noted that the project involves deep excavations and open trenches. Excavations and open trenches can act as a trap for snakes, small mammals and lizards.</p>	<p>NEGATIVE MEDIUM</p>	<p><u>Noise mitigation measures</u></p> <ul style="list-style-type: none"> <li>• All construction activities should be undertaken according to daylight working hours between the hours of 07:00 – 17:00 on weekdays and 7:00 – 17:00 on Saturdays.</li> <li>• Construction activities may be undertaken on Sundays in cases of emergencies.</li> <li>• Provide all equipment with standard silencers.</li> <li>• Maintain silencer units in vehicles and equipment in good working order.</li> <li>• All earth moving vehicles and equipment must be regularly maintained to ensure their integrity and reliability.</li> <li>• Construction staff working in area where the 8-hour ambient noise levels exceed 85 dBA must have the appropriate Personal Protective Equipment (PPE).</li> <li>• All operations should meet the noise standard requirements of the Occupational Health and Safety Act (Act No. 85 of 1993).</li> </ul> <p><u>Safety mitigation measures</u></p> <ul style="list-style-type: none"> <li>• The area affected by construction must be fenced prior to any activities taking place.</li> <li>• All excavated areas must be clearly marked and barrier tape must be placed around them for safety purposes.</li> <li>• A Fire Management Plan has to be identified during the pre-construction phase and must be implemented throughout the construction and operation phases of the development.</li> </ul>	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>
<p><b>Traffic (construction vehicles)</b></p> <p>The construction phase is likely to generate additional traffic in terms of construction vehicles and heavy vehicles delivering materials to the</p>	<p>NEGATIVE MEDIUM</p>	<ul style="list-style-type: none"> <li>• The heavy construction vehicles should avoid the local roads during peak traffic times and large deliveries should also be scheduled outside the peak traffic times.</li> <li>• Signs should be erected in the vicinity of the site.</li> </ul>	<p>NEGATIVE MEDIUM</p>	<p>LOW</p>

site. However, the number of vehicles will be minimal.		<ul style="list-style-type: none"> <li>• Construction vehicles are to avoid main roads during peak traffic hours.</li> <li>• All vehicles entering the Site are to be roadworthy.</li> <li>• When using heavy or large vehicles / equipment, “spotters” are to be present to assist the driver with his blind spots.</li> <li>• Any incident or damage to a vehicle must be reported immediately.</li> </ul>		
<p><b>Impact of Labourers</b></p> <p>An uncontrolled influx of labourers with resulting increase in crime and squatting would place pressure on the natural environment (placement of snares, removal of trees for firewood, careless waste disposal, etc.). This could be severe, resulting in permanent damage to the environment if not mitigated properly.</p> <p><u>The development site</u></p> <p>A small number of construction workers will be on site. A large workforce is thus not expected. Even if all the required labourers (highly skilled to unskilled) are sourced from outside the study area (worst case scenario) it is not anticipated that the relatively small construction workforce will have an impact on the population size and density of the local communities within the study area.</p> <p>The laydown area is proposed to be on the site of Cavalier Foods.</p>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>• Mitigation measures to counter impact on the natural environment and limit potential for crime during the construction phase should include specifications in terms of control of construction workers (i.e. provision of toilet and cooking facilities, provision of either accommodation facilities or transport facilities, implementation of Environmental Educational Programmes, etc.).</li> <li>• Accommodation for labourers must either be limited to guarding personnel on the construction site (with labourers transported to and from existing neighbouring towns) or a separate fenced and controlled area where proper accommodation and relevant facilities are provided.</li> <li>• No temporary accommodation or temporary storage facilities may be setup within 100m of the any watercourse.</li> <li>• Part of the adjudication process for the successful contractor to undertake the civil works must be the use of casual and unskilled labour to stimulate local job creation through the use of labour intensive methods where possible.</li> <li>• If possible all labour should be sourced locally.</li> <li>• Contractors and their families may not stay on site.</li> <li>• No informal settlements will be allowed.</li> </ul>	NEGATIVE LOW	LOW
<p><b>Safety</b></p> <p>Public safety during construction.</p>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>• Members of the public adjacent to the construction site should be notified of construction activities in order to limit unnecessary disturbance or interference.</li> <li>• Construction activities will be undertaken during daylight hours and only in case of emergency on Sundays.</li> </ul>	NEGATIVE LOW	LOW
<p><b>Safety</b></p> <p>Construction staff safety during construction.</p>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>• Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction.</li> <li>• All construction staff must have the appropriate PPE.</li> <li>• The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents.</li> <li>• Report and record any environmental, health and safety incidents to the responsible person.</li> </ul>	NEGATIVE MEDIUM	LOW
<p><b>Impact on Cultural Heritage Resources</b></p>	NEGATIVE LOW	<ul style="list-style-type: none"> <li>• Known sites and the recorded cemetery should be indicated on</li> </ul>	NEGATIVE LOW	LOW



<p>A cemetery located more than 30 meters away from the line was recorded during the survey but will not be impacted on. Route 1 or 2 does not impact on any known heritage resources. There is always a probability that additional archaeological resources might be identified during excavations.</p>		<p>development plans, demarcated during construction, and avoided.</p> <ul style="list-style-type: none"> <li>• A 'Chance find Procedure' should be followed: <ul style="list-style-type: none"> <li>• If there are any new heritages resources are discovered during construction and operation phases of the proposed development, then a professional archaeologist or palaeontologist, depending on the nature of the finds, must be contracted as soon as possible to inspect the findings at the expense of the developer.</li> <li>• If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required at the expense of the developer. Mitigation will only be carried out after the archaeologist or palaeontologist obtains a permit in terms of section 35 of the NHRA (Act 25 of 1999).</li> <li>• The applicant/ ECO may contact SAHRA APM Unit for further details: (Nokukhanya Khumalo/ Phillip Hine 021 202 8654).</li> <li>• If any unmarked human burials are uncovered and the archaeologist called in to inspect the finds and/or the police find them to be heritage graves, then mitigation may be necessary and the SAHRA Burial Grounds and Graves (BGG) Unit must be contacted for processes to follow (Thingahangwi Tshivase/Mimi Seetelo 072 802 1251).</li> </ul> </li> </ul>		
<p><b>Impact on Palaeontological Resources</b></p> <p>The study area is of insignificant to moderate paleontological sensitivity and an independent assessment concluded that the impact on the palaeontological heritage would be very low.</p>	<p>NEGATIVE LOW</p>	<p><u>Fossil Chance Find Protocol</u></p> <ul style="list-style-type: none"> <li>• In the unlikely event that fossils are uncovered during construction then construction must cease within the immediate vicinity, a buffer of 30 m must be established, and a palaeontologist called in to inspect the finds.</li> <li>• The palaeontologist must obtain a section 35(4) permit in terms of NHRA and Chapter IV NHRA Regulations, before any fossils are collected.</li> <li>• If the newly discovered heritage resources prove to be of archaeological or palaeontological significance, a Phase 2 rescue operation may be required at the expense of the developer. Mitigation will only be carried out after the archaeologist or palaeontologist obtains a permit in terms of section 35 of the NHRA (Act 25 of 1999).</li> <li>• The applicant/ ECO may contact SAHRA APM Unit for further details: (Nokukhanya Khumalo/ Phillip Hine 021 202 8654).</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>
<p><b>Existing services and infrastructure</b></p>	<p>NEGATIVE LOW</p>	<ul style="list-style-type: none"> <li>• Discuss possible disruptions with affected parties to determine most convenient times for service</li> </ul>	<p>NEGATIVE LOW</p>	<p>LOW</p>

Damage to the existing services and infrastructure during the construction phase and disruptions in services (i.e. Telkom lines, electricity) during the construction phase.		disruptions and warn affected parties well in advance of dates that service disruptions will take place.		
<b>Waste Management</b> <u>Builder's and domestic waste</u> The construction phase will create small quantities of contractor's and domestic waste to be accommodated by local legal landfill sites.	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>Develop a central waste temporary holding site to be used during construction. This site should comply with the following:</li> <li>Skips for the containment and disposal of waste that could cause soil and water pollution, i.e. paint, lubricants, etc.;</li> <li>Small lightweight waste items should be contained in skips with lids to prevent wind littering;</li> <li>Bunded areas for containment and holding of dry building waste.</li> <li>These areas shall be predetermined and located in areas that is already disturbed.</li> <li>These areas shall not be in close proximity of any watercourse.</li> </ul>	NEGATIVE LOW	LOW
<u>Sewage waste</u> Generation and disposal of sewage waste of temporary construction toilets.	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>On-site chemical toilets will be provided for domestic purposes during construction phase.</li> <li>The contractors will be responsible for the maintenance of the chemical toilets.</li> <li>No temporary facilities or portable toilets to be setup within 50m of any watercourse.</li> <li>No French drain systems may be installed.</li> <li>Should any spills or incidents occur; the material will be cleaned up immediately and disposed of appropriately.</li> <li>All incidents must be reported to the responsible site officer as soon as it occurs.</li> </ul>	NEGATIVE LOW	LOW
<b>Economic impacts</b>  Positive economic impacts are anticipated. The impact on employment would be positive, and although the impact is expected to be small; any contribution to more employment is an achievement in South Africa.	POSITIVE HIGH	<ul style="list-style-type: none"> <li>Employment opportunities will be generated.</li> <li>All labour (skilled and unskilled) and contractors should be sourced locally where possible.</li> <li>A labour and recruitment policy must be developed, displayed and implemented by the contractor.</li> <li>Recruitment at the construction site will not be allowed.</li> <li>Where possible, labour intensive practices (as opposed to mechanised) should be practiced.</li> <li>The principles of equality, BEE, gender equality and non-discrimination will be implemented.</li> </ul>		
<b>INDIRECT IMPACTS</b>				
No indirect impacts were identified during the construction phase.				
<b>CUMULATIVE IMPACTS</b>				
<b>Visual Impact</b> The development of the site would contribute to the	NEGATIVE MEDIUM	Project should adhere to the stipulated mitigation measures to limit impact to	NEGATIVE LOW	LOW

<p>cumulative effects of the gradual transformation of the area from an area with part rural landscape components to an area dominated by infrastructure.  <u>Development site</u>                  It is also important to take into consideration that, for sections of the power line route, the power line runs along existing roads and other power lines. In other words, the power line will be mostly within or next to disturbed areas.</p>		<p>the natural habitat, to surface water, erosion etc.</p>		
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Route Alternative 2				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
Impacts as described under Proposal above are applicable to Alternative 2.				
INDIRECT IMPACTS				
No indirect impacts were identified during the construction phase.				
CUMULATIVE IMPACTS				
Impacts as described under Proposal above are applicable to Alternative 2.				

NO GO ALTERNATIVE				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the development will also not materialise, and it must be noted that the majority of the impacts identified for the development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial development with negligible environmental impacts.				
INDIRECT IMPACTS				
No indirect impacts were identified during the construction phase.				
CUMULATIVE IMPACTS				
No cumulative impacts were identified during the construction phase.				

**3 OPERATIONAL PHASE**

Route 1 (PROPOSAL)				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
<b>Impact on the natural habitat</b> The removal of any alien invasive plants, coupled with indigenous re-vegetation will have a positive effect on the biodiversity of not only the site itself, but also its surrounds.	POSITIVE HIGH	Vegetation guidelines as stipulated in the EMPr must be followed during the operational phase of the project.		
<b>Impact of alien vegetation</b>	POSITIVE HIGH	Removal of alien invasive species or other vegetation and follow-up procedures must be in accordance with the Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983). Mechanical control of alien species to be implemented within three (3) months of completion of construction of the power line. Thereafter ever six months. No chemical control (herbicides) to be used in the control of alien plants. All control of weeds to be mechanical in nature. Cleared alien vegetation must not be dumped on adjacent intact vegetation during clearing, but should be temporarily stored in a demarcated area.		
<b>Impact on avifauna</b>	NEGATIVE MEDIUM	<ul style="list-style-type: none"> <li>Maintenance access roads to be limited to car tracks or small gravel roads under the power lines (This does not include existing farm roads or public gravel roads in the area that can be used to access the power line).</li> <li>Access roads to be maintained and any erosion gullies to be rehabilitated as part of the maintenance programme on the power lines.</li> <li>Any dead birds found in the power line servitude to be photographed, position recorded and reported to Eskom.</li> </ul>	NEGATIVE LOW	LOW
<b>Socio-Economic Impact</b> The impact on employment would be positive, and although the impact is expected to be small; any contribution to more employment is an achievement in South Africa. POSITIVE IMPACT	POSITIVE LOW			
INDIRECT IMPACTS				
No indirect impacts were identified during the operational phase.				
CUMULATIVE IMPACTS				
No cumulative impacts were identified during the operational phase.				

Route Alternative 2				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation

				not being implemented
Impacts described under Alternative Proposal above are applicable to Alternative 2.				
INDIRECT IMPACTS				
Impacts described under Alternative Proposal above are applicable to Alternative 2.				
CUMULATIVE IMPACTS				
Impacts described under Alternative Proposal above are applicable to Alternative 2.				

NO GO ALTERNATIVE				
DIRECT IMPACTS				
Potential Impacts	Significance Rating	Mitigation Measures	Significance rating of impacts after mitigation	Risk of the impact and mitigation not being implemented
All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the electrical infrastructure development will also not materialise, and it must be noted that the majority of the impacts identified for the infrastructure development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial infrastructure development with negligible environmental impacts.				
DIRECT IMPACTS				
No indirect impacts were identified during the operational phase.				
CUMULATIVE IMPACTS				
No cumulative impacts were identified during the operational phase.				

**4 IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING AND CLOSURE PHASE**

Due to the permanent nature of this development proposal, decommissioning is highly unlikely and decommissioning therefore does not form part of this project proposal.

**3 ENVIRONMENTAL IMPACT STATEMENT**

Taking the assessment of potential impacts into account, an environmental impact statement will be completed. This will sum up the impact and its alternatives may have on the environment (after the management and

mitigation of impacts have been taken into account - with specific reference to types of impact, duration of impacts, likelihood of potential impacts and the significance of impact).

**PLANNING & DESIGN PHASE (PROPOSAL)**

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Natural Habitat and watercourses	1	2	2	1	Low

**CONSTRUCTION PHASE (PROPOSAL)**

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Natural Habitat	1	1	2	2	Low
Impact on Water Resources	1	2	2	2	Low
Impact on Avifauna	2	2	1	2	Low
Geology: Stability of structures, stability of excavations	1	1	3	1	Low
Impact on Erosion	2	1	1	2	Low
Impact of Noise, Safety and Dust	2	2	1	1	Low
Traffic Impact	2	2	1	1	Low
Impact of Labourers	2	2	1	1	Low
Impact on Cultural Heritage Resources	2	1	2	1	Low
Existing Services and Infrastructure	1	1	2	1	Low
Waste Management	2	1	1	2	Low
Economic Impacts This will be a POSITIVE impact	3	2	2	3	High

**OPERATIONAL PHASE (PROPOSAL)**

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Natural Habitat This will be a POSITIVE impact	2	2	3	3	High
Impact on Avifauna	2	2	3	3	Low
Impact on Alien vegetation This will be a POSITIVE impact	2	2	3	3	High
Economic Impacts This will be a POSITIVE impact	3	2	2	3	High

**CUMULATIVE IMPACTS**

Impact Description	Intensity	Extent	Duration	Probability it would occur	Significance rating After Mitigation
Impact on Natural Vegetation	1	2	3	2	Low
Impact on habitat and ecosystem functions in the area	1	2	3	2	Low
Impact on Avifauna	2	2	3	3	Low

**NO-GO (Compulsory)**

All the impacts outlined above will not apply to the No-Go alternative as the status quo will apply and the environment will remain as it is currently. However, it is important to note that the benefits associated with the development will also not materialise, and it must be noted that the majority of the impacts identified for the development were mitigated to a negative low or positive impact once the measures for mitigation were applied, indicating that maintaining the status quo is to lose the opportunity of a beneficial development with negligible environmental impacts.

**4 IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE**

The significance of impacts of the proposal and alternative(s), and reasons for selecting the proposal or preferred alternative are as follows:

**11 kV Overhead Power line**

The project and related activities will have limited potentially negative impacts on the natural environment. The impacts will be at a very localised level (Study Site). The nature of the project is also known to have low levels of negative impacts on the natural environment. The overall footprint is small with poles/pylons every few hundred metres and selective bush clearing of approximately 19m wide under the line. With the implementation of mitigating measures and general standards and procedures for power line construction, the potential impacts can be reduced slightly and contained to the specific study site. Most of the negative impacts will be short-term (during the construction phase), with the only measurable long-term potential impacts being those of potential bird electrocutions and collisions.

**Route alternative recommendations: Ecological**

Two power line route / servitude alternatives were investigated, namely Route 1 and Route 2. There is little difference between the two routes, with the exception that Route 2 initially follows a more direct route in the southern section at the T-off point. The lack of variables in route alternatives is also due to the lack of open space and manoeuvrability for new power line servitudes in the area and across private properties.

The ecological impacts of the two alternatives differ very little, and if at all then only in the first kilometre in the south of the study site at the T-off point. Route 1 is recommended only because it follows the existing road and power line within the first kilometre from the T-off point in the south, while Route 2 crosses through more open veld and drainage area. Simply on these grounds Route 1 is the recommended route alternative, although from a construction and costing viewpoint a straight line is more desirable.

For these reasons the recommended route is **Route 1**.

**Route alternative recommendations: Avifauna**

From the assessment conducted, it appeared that Route 1 has more positives and less negatives than Route 2. Therefore, Route 1 was the recommended alternative for the assessment. From the rest of the study and assessments there appears to be no other significant factors that might change this recommendation.

For these reasons the recommended route is **Route 1**.

**Route alternative recommendations: Heritage & Palaeontology**

A cemetery located more than 30 meters away from the line was recorded during the survey but will not be impacted on. Route 1 or Alternative Route 2 is viable from a heritage perspective.

The impact on the palaeontological heritage would be very low, so as far as the palaeontology is concerned both **Route 1 or 2** could be constructed.

In summary, taking the ecological, avifauna and heritage sensitivities into account, the recommended route alternative is **Route 1**.

**Proposal for authorisation: 11kV overhead line Route 1**

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

Biodiversity Impact Assessment - Terrestrial and Aquatic Ecology – App G1  
 Avifauna Impact Assessment – App G2  
 Heritage Impact Assessment – App G3

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

None

## 5 SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

Spatial development tools used included ArcGIS v.10.2; Google Earth Professional; SANBI's BGIS MapViewer ([www.bgis.sanbi.org](http://www.bgis.sanbi.org)) and Garmin Maps.

These tools, along with relevant datasets such as vegetation types, rivers, GDARD's C-Plan datasets, etc. were used in the desktop assessment as well as the final biodiversity specialist reports. ArcGIS as well as Google Earth Professional were used to produce the detailed maps used in the reports.

The outcome is that these spatial development tools give accurate layouts and positions of important data such as Critical Biodiversity Areas. The tools are also used to create accurate and visual maps showing floodlines, watercourses, sensitive areas, etc.

### **Gauteng Conservation Plan (C-Plan v.3.3)**

Critical biodiversity areas (CBAs) are terrestrial and aquatic features in the landscape that are critical for retaining biodiversity and supporting continued ecosystem functioning and services (SANBI, 2007).

According to Gauteng C-Plan v3.3., Critical Biodiversity Areas (CBAs) in the C-Plan contain three types of areas:

- Irreplaceable areas, which are essential in meeting targets set for the conservation of biodiversity in Gauteng.
- Areas that are important for the conservation of biodiversity in Gauteng.
- Conserved areas, which include all existing level 1 and 2 protected areas.

Level 1 protected areas are proclaimed in terms of relevant legislation specifically for the protection of biodiversity (or for the purposes of nature conservation) AND are subject to an ecological management plan with conservation of biodiversity as the primary management objective.

Level 2 protected areas are proclaimed in terms of relevant legislation specifically for the protection of biodiversity (or for the purposes of nature conservation) OR are subject to an ecological management plan with conservation of biodiversity as the primary management objective.

According to the Gauteng Conservation Plan (C-Plan, version 3.3) much of the proposed power line route is within a demarcated CBA (Figure below). The CBA is an Important Area (CBA2). This is understandable because most of the demarcated CBA is threatened Marikana Thornveld and is presently open, fairly good condition thornveld. The proposed power line servitude that runs through the centre of the CBA (which is in the game reserve) will run along and within an existing power line servitude, which will drastically limit and reduce potential negative impacts.

Critical biodiversity areas (CBAs) are terrestrial and aquatic features in the landscape that are critical for retaining biodiversity and supporting continued ecosystem functioning and services (SANBI, 2007). These form the key outputs of a systematic conservation assessment and are the biodiversity sectors inputs into multi-sectoral planning and decision-making tools. CBAs are areas of the landscape that need to be maintained in a natural or near-natural state in order to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services (SANBI).

Ecological Support Areas (ESAs) are areas that are often seen as buffer areas for CBAs as well as corridors and connective areas between CBAs and/or other priority areas. ESAs are also often designated buffer and support areas along rivers and streams. Refer to *Appendix A* for a map showing the Critical Biodiversity Areas.



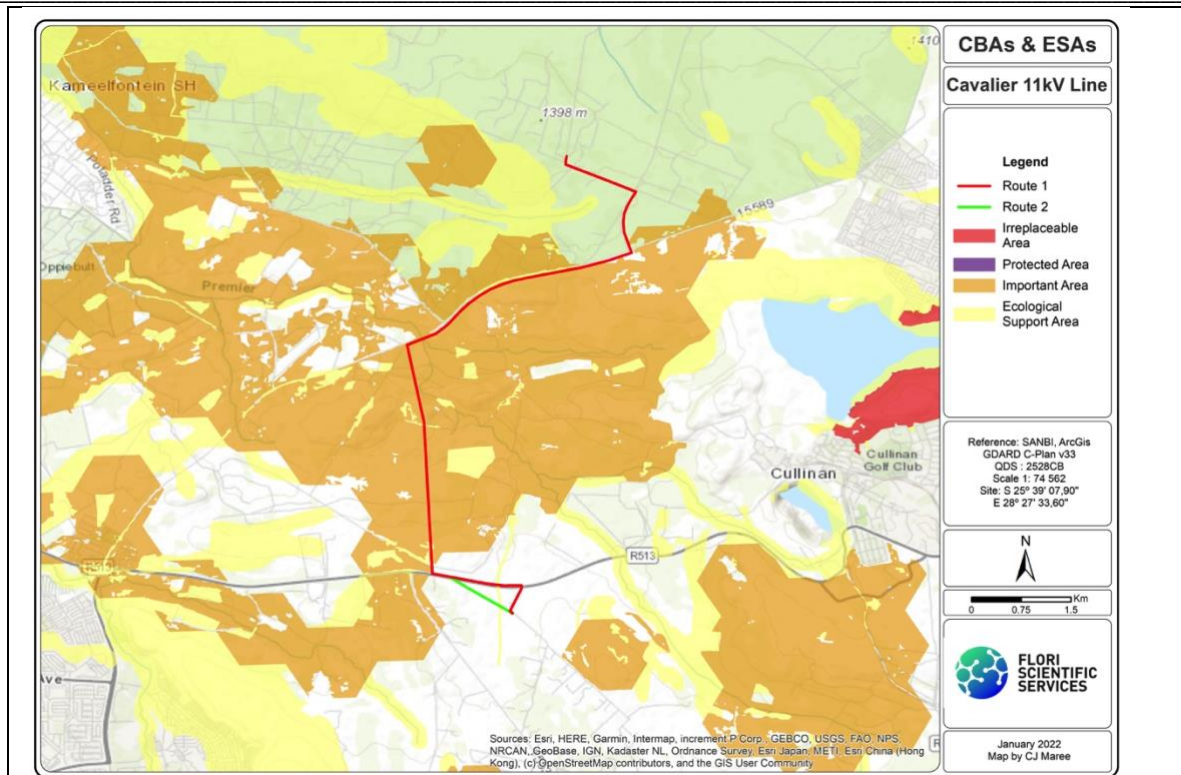


Figure 11: CBAs and ESAs

The sensitive areas in the study area are the few small watercourses and the rocky hills in the north of the Cullinan Game Farm (south of the R573). Although the majority of the power line route runs through a demarcated CBA area, this CBA area in reality is not ecologically sensitive. It is demarcated most likely on the grounds that it is Marikana Thornveld (which is a threatened veldtype / ecosystem). However, within the area of the power line routes there are no protected trees, RDL plants, etc. and much of the route in the CBA, which is in the Cullinan Game Farm, is open treeless grassland and not dense or characteristic thornveld. However, the CBA area has been demarcated as having a sensitivity of 'Medium' as per the ecological sensitivity assessment.

The entire study site therefore has a sensitivity rating of 'Medium', with the watercourses and rocky hills have a sensitivity of 'High'. However, there are no 'no-go' zones within the power line servitude. Keeping in mind that no pylons may be positioned / planted within demarcated watercourses and associated buffer zones.

**National Environmental Screening Tool**

The National Web based Environmental Screening Tool is a geospatial web-enabled application providing for screening of sites for environmental sensitivity and the placement of proposed developments in relation to the impact avoidance hierarchy. It produces the report required in terms of regulation 16(1)(v) of the EIA regulations.

The Environmental Assessment Practitioner (EAP) consulted the DEA Screening Tool to inform on the environmental sensitivity of the proposed development site. The following summary of the site environmental sensitivities is identified. Only the highest environmental sensitivity is discussed. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only. Refer to the screening report attached as *Appendix 13*.

Environmental Sensitivity of study site according to the Environmental Screening Report:

- Terrestrial biodiversity combined theme sensitivity: Very High.
- Aquatic biodiversity combined theme sensitivity: Low.
- Plant species theme sensitivity: Medium with patches of Low.
- Animal species theme sensitivity: Medium.

The Table below, shows the maps as obtained from the DEA Screening Tool.

Table: Maps from DEA Screening Tool

<p>Terrestrial Biodiversity Combined Sensitivity</p>	<p>Aquatic Biodiversity Combined Sensitivity</p>
<p>Animal Species Theme</p>	<p>Plant Species Theme</p>
<p>Red Dotted Line - Study Site; Red – Very High Sensitivity; Yellow – Medium Sensitivity; Green – Low Sensitivity</p>	

During field investigations the DEA Screening Tool assessment, was verified (ground-truthed). From the specialist studies and site investigations (ground-truthing) it is reasonable to agree that the screening tool assessments are accurate in terms of Aquatic, Animal Species and Plant Species. However, the evidence does not support the fact that the overall Biodiversity is 'Very High', especially outside of the Cullinan Game Farm area. These areas are determined to have an overall biodiversity of 'Medium'.

The Cullinan Game Farm has a biodiversity of 'Very High' due to the fact that it is a game reserve, has a few pristine rocky hills and is within the threatened veldtype / ecosystem of Marikana Thornveld.

The reason that the Screening Tool Assessment shows the large area as having a biodiversity sensitivity of 'very high' is most likely because that area is the threatened veldtype / ecosystem of Marikana Thornveld (Status of vulnerable).

## 6 RECOMMENDATION OF THE PRACTITIONER

<p>Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner as bound by professional ethical standards and the code of conduct of EAPASA).</p>	<p>YES X</p>	<p>NO</p>
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If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

The majority of the negative environmental impacts will be experienced during the construction phase. The majority of these impacts will have a LOW significance. It is envisaged that these impacts can be easily mitigated and satisfactorily managed. In order to achieve appropriate environmental management standards and ensure that the findings of the environmental studies are implemented through practical measures, the recommendations from this BAR are included within an EMP (Appendix H).

In addition, the following key conditions should be included as part of the authorisation:

- The EMPr must be implemented and complied with to ensure the minimisation, control and mitigation of construction phase impacts.
- Compliance with the EMPr should be evaluated and audited by an independent, appropriately qualified and experienced ECO, on a monthly basis, as a minimum.
- Rehabilitation must be done correctly and on time, particularly in terms of erosion control and the prevention of exposed soils.
- If during construction any new evidence of archaeological sites or artefacts, paleontological fossils, graves or other heritage resources are found, the operations must be stopped and a qualified archaeologist or SAHRA must be contacted immediately for an assessment of the find.
- All recommendations made by the specialists in reports compiled for this development should be adhered to at all times.
- 32m Buffer zones, from the edge of the banks of all watercourses need to be implemented. These are 'No-Go' zones in terms of construction. No pylons may be placed / erected within these buffer zones of 32m.
- A 20m buffer zone is recommended in the area where the power line comes into close proximity of a watercourse, even if it does not cross it. This is more to protect the watercourse during the construction phase.
- Bird Flight Diverters (BFDs) must be installed across the length of the highlighted sensitive areas. That is, areas with a high potential risk of power line collisions.
- Additional insulation is recommended for the live components at the top of the structures as multiple vultures may roost on the pole top simultaneously, increasing the risk of electrocution.

Based on the assumption that the mitigation measures will be effectively implemented for the proposed project and its associated infrastructure and that no fatal flaws have been identified to date, it is the opinion of the EAP that this activity should proceed to the final stages of decision making.

## 7 THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT

(as per notice 792 of 2012, or the updated version of this guideline)

The reliable provision of electricity by Eskom is critical for industrial development and related employment and sustainable development in South Africa. The proposed activity will provide support to electrical infrastructure that will contribute to sustainable economic growth, provide for sustainable human settlements. In view of the above it is the EAP's opinion that the proposed activity is desirable and will not have a detrimental impact on the surrounding properties or the environment.

## 8 THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

As per the Appendix 1(3)(1)(q) of the NEMA EIA Regulations 2014, as amended, the period for which the environmental authorisation is required, is five (5) years and the activity is expected to be concluded within 2 years from the date of authorisation.

## 9 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

An Environmental Management Programme was prepared to detail a plan of action to ensure that recommendations for preventing the negative environmental impacts (and where possible improving the environment) are implemented during the life-cycle of the project. The applicant has to sign and implement the EMPr for the overhead lines. Environmental Management Programme attached as *Appendix H*.

## 10 CONCLUSION

In summary the following is recommended for authorisation:

This EIA (Basic Assessment Process) investigated a 100m corridor to accommodate any future deviation of the power lines. The EIA will seek to authorise the total corridor. The wider area that was investigated will allow future potential amendments to the Environmental Authorisation should it be necessary (at a later stage). Should small changes be done to the route alignment after authorisation it will not be considered crucial and will not warrant a new application.

**The 11kV Overhead power line Route 1 is recommended for authorisation.**