environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.

2. 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.

3. Where applicable **tick** the boxes that are applicable in the report.

4. An incomplete report may be returned to the applicant for revision.

5. 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 rejection of the application as provided for in the regulations.

6. This report must be handed in at offices of the relevant competent authority as determined by each authority.

7. No faxed or e-mailed reports will be accepted.

8. The report must be compiled by an independent environmental assessment practitioner.

9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?	YES	**NO**

If YES, please complete the form entitled "Details of specialist and declaration of interest" for appointment of a specialist for each specialist thus appointed:
Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail[1]:

Eskom Holdings Limited (Eskom) is mandated by the South African Government to ensure the provision of reliable and affordable power to South Africa. Eskom currently generates approximately 95% of the electricity used in South Africa. Therefore, electricity must be generated in accordance with supply demand requirements. 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 be stored, power is generated and delivered over long distances at the very instant that it is required. In South Africa, thousands of kilometres of high voltage Transmission lines (i.e. 765 kV, 400 kV and 275 kV 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. 132 kV, 88 kV and 66 kV powerlines). Here the voltage is down-rated further for distribution to industry, businesses, 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. Reliable delivery of electricity concerns consumers and industries which require a high quality of power supply for sensitive electronic equipment, and which incur high expenses as a result of even a short electricity supply interruption. To be reliable, the transmission network must have the capacity to supply the electricity required by the customers at all times. That is, the network must be designed with reserve transmission capacity in order to ensure an uninterrupted supply to customers if and when faults occur. As a transmission network reaches capacity, the operation of the Transmission lines becomes more critical.

In the event of a network being increasingly operated above its design capacity during peak periods, and two particular concerns arise:

- **energy losses increase significantly along the Transmission lines; and**
- **the voltage drop along the lines increases to a point where supply becomes unstable and the line "goes down", and supply on that Transmission line is lost.**

When a Transmission line "goes down" it is usually possible to re-route the electricity via other lines in the network. However, when the network is already close to capacity, there is a greater risk that the

[1] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

entire network will "go down", cutting supply to the region for an indefinite period of time. In addition, routine maintenance on the transmission network becomes restricted, resulting in the heightened deterioration of the network over time. This deterioration, ultimately, also affects the performance of the transmission network.

This is currently the case in the Mokopane area, where demand in this part of the Eskom Distribution network is increasing rapidly due to vigorous electrification plans and mining developments. The peak electricity load required in this area is further anticipated to increase significantly in the near future due to planned mines underway.

Therefore Eskom proposes the development of the Borutho MTS project which involves the construction of five 132kV power lines of various lengths from the proposed Borutho MTS to various substations as follows:

Proposed Borutho (Mokopane) MTS Project (see Figure 1-):

1. **Construction of approximately 10km 132 kV Loop in Loop out power line from the existing Witkop PPRust 132 kV power line to the proposed Borutho MTS,**
2. **Construction of approximately 10km 132 kV Loop in Loop out power line from the existing Witkop Sandsloot 132 kV power line to the proposed Borutho MTS,**
3. **Construction of approximately 28km 132 kV power line from the existing Potties Substation to the proposed Borutho MTS.**

This is currently the case in the Mokopane area, where demand in this part of the Eskom Distribution network is increasing rapidly due to vigorous electrification plans and mining developments. The peak electricity load required in this area is further anticipated to increase significantly in the near future due to planned mines underway.

In accordance with the requirements of the National Environmental Management Act No. 107 of 1998, and relevant Environmental Impact Assessment (EIA) regulations made in terms of this Act (Government Notice No R.544 and 546) and promulgated in 2010, the proposed project requires a Basic Environmental Assessment.

Mokwale Consulting have been appointed by Eskom Holdings Limited as Environmental Assessment Practitioner (EAP) to conduct the EIA.

132 kV DESIGN SPECIFICATIONS

Details of the planned 132 kV power line, including the design specifications and the structural information are discussed below and presented in Table 1.

Road Access for Construction and Maintenance of the power line and substation

Road access will be required as part of the servitude along the distribution line for easy access during the construction, and maintenance of the distribution line. This would need to meet specific requirements. Details regarding the required access roads will be included in the final EMP for the project.

Types of Towers/Pylons

The preferred pylons for this line will either be monopoles, self-supporting towers, or a combination thereof.

Servitude requirements for the proposed power line

Generally, 132 kV power lines require a servitude width of between 30 m and 52m. The proposed 132 kV power line will require a servitude width of 31 m (15.5 m either side of the centre line of the power line).

Any extra area required outside the servitude shall be negotiated with the relevant land occupiers and approved by Eskom. All areas marked as no-go areas, identified by means of the EIA process, located inside the servitude shall be treated with the utmost care and responsibility.

Line clearances

High voltage power lines require a large clearance area for safety precautions. The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) provides for statutory clearances.

Table 1 summarizes some of the key clearances relevant to the proposed 132 kV power line.

Table 1: Clearance specifications (Eskom, 2007a).

Clearances	Minimum Clearance Distance (m)
Ground clearance	6.7
Building structures not part of power line	3.8
Above roads in townships, proclaimed roads	7. 5
Telkom telephone lines	2.0
Spoornet tracks	10.9

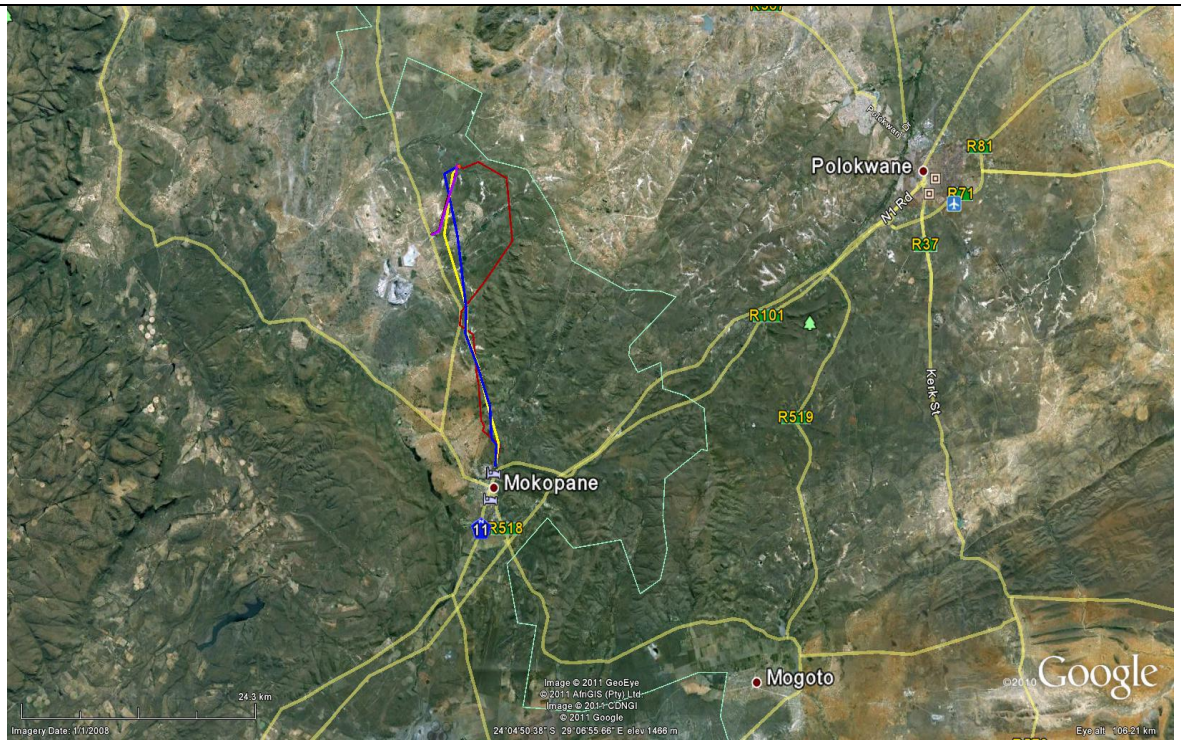

Figure 1: Proposed Power lines and alternatives

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe 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 in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether 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. 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.

ALTERNATIVES CONSIDERED DURING THE BASIC ASSESSMENT PROCESS.

Alternatives in this project are not considered due to the following reasons:

1) **The construction of approximately 10Km 132Kv Loop in Loop out power line from the existing Witkop PPRust 132kV power line and Witkop Sandsloot to the proposed Mokopane MTS,**

These lines will be traversing in a build-up area where the existing land uses restricted Eskom only to the preferred power line routes. There are hills, mountain, dams and residential area in the surrounding area.

2) **Construction of approximately 28km 132kV power line from the existing Potties Substation to the proposed Mokopane MTS.**

This line will be traversing parallel to the Eskom's Transmission line from Borutho MTS to Potties substation already approved by the Department of Environmental Affairs. The resolution was taken with the affected landowners and farm owners during public consultation that instead of the Eskom's Distribution to find their own route that will still be affecting the very same farms in different portions it will be better for them to go parallel the approved Transmission line. This will in a way reduce unnecessary any other environmental impacts associated with the construction of the power lines.

All the specialists' studies conducted for the proposed activity recommended the proposed route for this activity. For instance Heritage report has concluded that there is no consequently no reason from a heritage point of view why Eskom project should not continue; on the other hand Bird impact assessment study the proposed construction of the new 132 kV Borutho MTS power lines will pose limited threat to the birds occurring in the vicinity of the new infrastructure; finally the Botanical Impact Assessment Study concluded that the natural vegetation and habitat of the study area is in poor to fair condition and historic and current land use practices having a negative impact.

Interested and affected parties for this project had no problem with the selected power line route; this includes the Provincial Department of Economic Development, Environment and Tourism, affected farm owners, traditional authorities and the public at large.

3. 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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.
List alternative sites, if applicable.

Alternative:	**Latitude (S):**		**Longitude (E):**	
Alternative S1[2] (preferred or only site alternative)	Please see attached list of coordinates next page.			
Alternative S2 (if any)	o	‘	o	‘
Alternative S3 (if any)	o	‘	o	‘

In the case of linear activities:

Alternative:	**Latitude (S):**		**Longitude (E):**	
Alternative S1 (preferred or only route alternative)				
• Starting point of the activity	o	‘	o	‘
• Middle/Additional point of the activity	o	‘	o	‘
• End point of the activity	o	‘	o	‘
Alternative S2 (if any)				
• Starting point of the activity	o	‘	o	‘
• Middle/Additional point of the activity	o	‘	o	‘
• End point of the activity	o	‘	o	‘
Alternative S3 (if any)				
• Starting point of the activity	o	‘	o	‘
• Middle/Additional point of the activity	o	‘	o	‘
• End point of the activity	o	‘	o	‘

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

Alternative:	**Size of the activity:**
Alternative A1[3] (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

or, for linear activities:

Length of the activity: _____

[2] “Alternative S..” refer to site alternatives.
[3] “Alternative A..” refer to activity, process, technology or other alternatives.

Alternative:	
Alternative A1 (preferred activity alternative)	**114 500 m**
Alternative A2 (if any)	m
Alternative A3 (if any)	m

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	**887375**m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

5. SITE ACCESS

Does ready access to the site exist?	**YES**	NO
If NO, what is the distance over which a new access road will be built	m	

Describe the type of access road planned:

N/A

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

6.1 the scale of the plan which must be at least a scale of 1:500;
6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
6.4 the exact position of each element of the application as well as any other structures on the site;
6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
6.6 all trees and shrubs taller than 1.8 metres;
6.7 walls and fencing including details of the height and construction material;
6.8 servitudes indicating the purpose of the servitude;
6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
- rivers;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and

6.11 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

Colour photographs from the centre 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 Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C 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.

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	**R**	
What is the expected yearly income that will be generated by or as a result of the activity?	**Not determined**	
Will the activity contribute to service infrastructure?	**YES**	**NO**
Is the activity a public amenity?	**YES**	**NO**
How many new employment opportunities will be created in the development phase of the activity?	**Not determined**	
What is the expected value of the employment opportunities during the development phase?	**Not determined**	
What percentage of this will accrue to previously disadvantaged individuals?	**not determined**	
How many permanent new employment opportunities will be created during the operational phase of the activity?	**Not determined**	
What is the expected current value of the employment opportunities during the first 10 years?	**Not determined**	
What percentage of this will accrue to previously disadvantaged individuals?	**not determined**	

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

NEED: Eskom has realised that there is high load growth from applications from mines and related industries. Current and future known loads in Mokopane already exceed 500MVA. Load can no longer be supported by Witkop MTS (load, servitudes, terrain, congestion, reliability, etc). It came to Eskom's attention that there is a need for new Transmission injection point and DX networks to strengthen the supply forecasted loads			
1.	Was the relevant provincial planning department involved in the application?	YES	NO
2.	Does the proposed land use fall within the relevant provincial planning	**YES**	NO

	framework?		
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		

DESIRABILITY:			
1.	Does the proposed land use / development fit the surrounding area?	**YES**	NO
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	**YES**	NO
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	**YES**	NO
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
5.	Will the proposed land use / development impact on the sense of place?	YES	**NO**
6.	Will the proposed land use / development set a precedent?	YES	**NO**
7.	Will any person's rights be affected by the proposed land use / development?	YES	NO
8.	Will the proposed land use / development compromise the "urban edge"?	YES	**NO**
9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		

BENEFITS:			
1.	Will the land use / development have any benefits for society in general?	**YES**	NO
2.	Explain: **Strengthening of the electricity distribution in this area will allow for an increase in the number of household and community electrifications. This will have long-term positive effects on education, health care and economic growth, at least.**		
3.	Will the land use / development have any benefits for the local communities where it will be located?	YES	NO
4.	Explain: Strengthening of the electricity distribution in this area will allow for an increase in the number of household and community electrifications. This will have long-term positive effects.		

10. 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, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (NEMA) (Act No. 107 of 1998)	DEA	1998
Environmental Impact Assessment Regulations Government Notice No. R 543	DEA	2010
Listing Notice 1 Government Notice No. R 544	DEA	2010
Integrated Environmental Management (IEM) Guidelines of the National Department of Environmental Affairs and Tourism	DEA	2002
Conservation of Agricultural Resources (Act No. 43 of 1983).	DEA	1983
National Water Act (Act No. 36 of 1998).	DWAF	1998
National Heritage Resources Act (Act 25 No. of 1999).	SAHRA	1999
National Environmental Management: Air Quality Act (Act No. 39 of 2004).	DEA	2004
National Environmental Management: Waste Act (Act No. 59 of 2008)	DEA	2008

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES**	NO
If yes, what estimated quantity will be produced per month?	1-5 m^3	

How will the construction solid waste be disposed of (describe)?

All solid waste generated during the construction process (including packets, plastic, rubble, cut plant material, waste metals etc.) will be placed in bulk waste collection area in the Contractors camp. The waste will be cleared regularly by a recognised waste Contractor. Litter collection bins will be provided within the Contractors camp at convenient intervals and will be regularly cleared. Separation of waste and recycling of paper, glass etc. must be encouraged. Burning or burying of waste will NOT be allowed. Unutilized, construction materials will be removed once construction has ended, e.g. crushed stone may not be left or randomly strewn around the site.

Where will the construction solid waste be disposed of (describe)?

Will the activity produce solid waste during its operational phase?	YES	**NO**
If yes, what estimated quantity will be produced per month?	m^3	

How will the solid waste be disposed of (describe)?

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

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, then 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**

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**

If yes, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	**NO**
If yes, what estimated quantity will be produced per month?	m^3	
Will the activity produce any effluent that will be treated and/or disposed of on site?	Yes	**NO**

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.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	YES	**NO**

If yes, provide the particulars of the facility:

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:

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

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:

The emission will be mainly:
- **Smoke from the diesel machinery and trucks; and**
- **Dust from construction works.**

11(d) Generation of noise

Will the activity generate noise?	**YES**	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	**NO**

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 noise in terms of type and level:

Noise levels will not exceed 40db and all works will be restricted to working hours. Minor noise generated from moving trucks and cars during construction phase will have minor disturbance to the surrounding residents and animals in the vicinity.

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water

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:	litres	
Does the activity require a water use permit from the Department of Water Affairs?	YES	**NO**

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

13. ENERGY EFFICIENCY

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

n/a

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

n/a

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No.1 (e.g. A): **Potties Substation to Borutho MTS**

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?	**YES**	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

Property description/physical address:	**Portion 80 of the farm Piet Potgietersrust Town 44 KS, Portion 40 of the farm Piet Potgietersrust Town 44 KS, Portion 43 of the farm Piet Potgietersrust Town 44 KS, Portion 44 of the farm Piet Potgietersrust Town 44 KS, Portion 39 of the farm Piet Potgietersrust Town 44 KS, Portion 36 of the farm Piet Potgietersrust Town 44 KS, Portion 35 of the farm Piet Potgietersrust Town 44 KS, Portion 33 of the farm Piet Potgietersrust Town 44 KS, Portion 34 of the farm Piet Potgietersrust Town 44 KS, Portion 39 of the farm Uitloop 3 KS, Portion 21 of the farm Uitloop 3 KS, Portion 1 of the farm Rietfontein 2 KS, Portion 0 of the farm Rietfontein 2 KS, Farm Holmesleigh 1 KS, Bultongfontein 239 KR Portion 1, Portion 3 of the farm Armoede 823 LR, Portion 1 of the farm Armoede 823 LR, Portion 820 of the farm Blinkwater 820 LR, Portion 0 of the farm Rooibokfontein 821 LR and Portion 0 of the farm Noord Braband 774 LR.**
	(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.
	In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.
Current land-use zoning:	**Power line Servitude and Agriculture**
	In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	YES	**NO**
Must a building plan be submitted to the local authority?	YES	**NO**

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (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 map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three 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. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S2 (if any):

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline
2.2 Plateau
2.3 Side slope of hill/mountain
2.4 Closed valley
2.5 Open valley
2.6 Plain
2.7 Undulating plain / low hills
2.8 Dune
2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	**YES**	NO	**YES**	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO
Dispersive soils (soils that dissolve in water)	YES	NO	YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO	YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO	YES	NO	YES	NO
An area sensitive to erosion	YES	NO	**YES**	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

Natural veld - good condition[E]	**Natural veld with scattered aliensE**	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	**Cultivated land**	Paved surface	Building or other structure	**Bare soil**

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area
5.2 Low density residential

5.3 Medium density residential
5.4 High density residential
5.5 Informal residential[A]
5.6 Retail commercial & warehousing
5.7 Light industrial
5.8 Medium industrial [AN]
5.9 Heavy industrial [AN]
5.10 Power station
5.11 Office/consulting room
5.12 Military or police base/station/compound
5.13 Spoil heap or slimes dam[A]
5.14 Quarry, sand or borrow pit
5.15 Dam or reservoir
5.16 Hospital/medical centre
5.17 School
5.18 Tertiary education facility
5.19 Church
5.20 Old age home
5.21 Sewage treatment plant[A]
5.22 Train station or shunting yard [N]
5.23 Railway line [N]
5.24 Major road (4 lanes or more) [N]
5.25 Airport [N]
5.26 Harbour
5.27 Sport facilities
5.28 Golf course
5.29 Polo fields
5.30 Filling station [H]
5.31 Landfill or waste treatment site
5.32 Plantation
5.33 Agriculture
5.34 River, stream or wetland
5.35 Nature conservation area
5.36 Mountain, koppie or ridge
5.37 Museum
5.38 Historical building
5.39 Protected Area
5.40 Graveyard
5.41 Archaeological site
5.42 Other land uses (describe)

If any of the boxes marked with an "N "are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?
If YES, specify and explain:
If YES, specify:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:
If YES, specify:

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES	**NO**
	Uncertain	
If YES, explain:	**Refer to Appendix D1: Heritage Impact Assessment Report**	
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	**The Phase I HIA study for the Eskom Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999). There is consequently no reason from a heritage point of view why Eskom's proposed Borutho MTS Project consisting of the construction five 132kV power lines should not be reconstructed.**	
Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

Section C Copy No.2 (e.g. A):	**Loop in Witkop PPRust to Borutho MTS**

4. Paragraphs 1 - 6 below must be completed for each alternative.

5. Has a specialist been consulted to assist with the completion of this section?	**YES**	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

Property description/physical address:	**Portion 0 of the farm Noord Braband 774 LR, Zuidbraband 719 LS, Portion 1, 3, 4, 5 of the farm Doornfontein 721 LR,**
	(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:

Power line servitude and vacant.

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	YES	**NO**
Must a building plan be submitted to the local authority?	YES	**NO**

Locality map: An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (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 map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three 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. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S2 (if any):

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline
2.2 Plateau
2.3 Side slope of hill/mountain
2.4 Closed valley
2.5 Open valley
2.6 Plain
2.7 Undulating plain / low hills
2.8 Dune
2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	**NO**	YES	**NO**	YES	NO
Dolomite, sinkhole or doline areas	YES	**NO**	YES	**NO**	YES	NO
Seasonally wet soils (often close to water bodies)	YES	**NO**	YES	**NO**	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	YES	**NO**	YES	NO
Dispersive soils (soils that dissolve in water)	YES	**NO**	YES	**NO**	YES	NO
Soils with high clay content (clay fraction more than 40%)	**YES**	NO	**YES**	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	**NO**	YES	NO
An area sensitive to erosion	YES	**NO**	YES	**NO**	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

Natural veld - good conditionE	Natural veld with scattered aliensE	Natural veld with heavy alien infestationE	Veld dominated by alien speciesE	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	**Bare soil**

If any of the boxes marked with an "E "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

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5.1 Natural area
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5.21 Sewage treatment plant[A]
5.22 Train station or shunting yard [N]
5.23 Railway line [N]
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5.25 Airport [N]
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5.27 Sport facilities
5.28 Golf course
5.29 Polo fields
5.30 Filling station [H]
5.31 Landfill or waste treatment site
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5.34 River, stream or wetland
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5.42 Other land uses (describe)

If any of the boxes marked with an "N "are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?
If YES, specify and explain:
If YES, specify:

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:
If YES, specify:

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES	**NO**
	Uncertain	

If YES, explain: **Refer to appendix D1: Heritage Impact Assessment Report**

If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist: **The Phase I HIA study for the Eskom Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999). There is consequently no reason from a heritage point of view why Eskom's proposed Borutho MTS consisting of the construction five 132kV power lines should not be reconstructed.**

Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

Section C Copy No.3 (e.g. A): **Loop out Witkop PPRust to Borutho MTS**

6. Paragraphs 1 - 6 below must be completed for each alternative.

7. Has a specialist been consulted to assist with the completion of this section?	**YES**	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

Property description/physical address: **Portion 0 of the farm Noord Braband 774 LR, Zuidbraband 719 LS, Portion 1, 3, 4, 5 of the farm Doornfontein 721 LR,**

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning: **Power line servitude and vacant.**

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	YES	**NO**

Must a building plan be submitted to the local authority?	YES	**NO**

Locality map: An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (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 map must indicate the following:

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- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three 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. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S2 (if any):

Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

Alternative S3 (if any):

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

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

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2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	**NO**	YES	**NO**	YES	NO
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Soils with high clay content (clay fraction more than 40%)	**YES**	NO	**YES**	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	**NO**	YES	NO
An area sensitive to erosion	YES	**NO**	YES	**NO**	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

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If YES, specify and explain:

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Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	YES	**NO**
Archaeological or palaeontological sites, on or close (within 20m) to the site?	Uncertain	
If YES, explain:	**Refer to appendix D1: Heritage Impact Assessment Report**	
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Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**
If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.		

Section C Copy No.4 (e.g. A):	**Loop in Witkop Sandloot to Borutho MTS**

8. Paragraphs 1 - 6 below must be completed for each alternative.

9. Has a specialist been consulted to assist with the completion of this section?	**YES**	NO

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Property description/physical address:	**Portion 0 of the farm Noord Braband 774 LR, Zuidbraband 719 LS, Portion 1, 3, 4, 5 of the farm Doornfontein 721 LR,**

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1. GRADIENT OF THE SITE

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Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

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Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
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Soils with high clay content (clay fraction more than 40%)	**YES**	NO	**YES**	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	**NO**	YES	NO
An area sensitive to erosion	YES	**NO**	YES	**NO**	YES	NO

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If YES, specify and explain:
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Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

Section C Copy No.5 (e.g. A):	**Loop out Witkop Sandloot to Borutho MTS**

10. Paragraphs 1 - 6 below must be completed for each alternative.

11. Has a specialist been consulted to assist with the completion of this section?

YES	NO

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

Property description/physical address:	**Portion 0 of the farm Noord Braband 774 LR, Zuidbraband 719 LS, Portion 1, 3, 4, 5 of the farm Doornfontein 721 LR,**
	(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.
	In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.
Current land-use zoning:	**Power line servitude and vacant land**
	In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	YES	**NO**
Must a building plan be submitted to the local authority?	YES	**NO**

Locality map: An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (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 map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three 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. GRADIENT OF THE SITE

Indicate the general gradient of the site.
Alternative S1:

Flat	**1:50**	–	1:20	–	1:15 – 1:10	1:10	–	1:7,5 – 1:5	Steeper than

	1:20	1:15		1:7,5		1:5
Alternative S2 (if any):						
Flat	**1:50 – 1:20**	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
Alternative S3 (if any):						
Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5

2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline
2.2 Plateau
2.3 Side slope of hill/mountain
2.4 Closed valley
2.5 Open valley
2.6 Plain
2.7 **Undulating plain / low hills**
2.8 Dune
2.9 Seafront

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	**NO**	YES	**NO**	YES	NO
Dolomite, sinkhole or doline areas	YES	**NO**	YES	**NO**	YES	NO
Seasonally wet soils (often close to water bodies)	YES	**NO**	YES	**NO**	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**	YES	**NO**	YES	NO
Dispersive soils (soils that dissolve in water)	YES	**NO**	YES	**NO**	YES	NO
Soils with high clay content (clay fraction more than 40%)	**YES**	NO	**YES**	NO	YES	NO
Any other unstable soil or geological feature	YES	**NO**	YES	**NO**	YES	NO
An area sensitive to erosion	YES	**NO**	YES	**NO**	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

Natural veld - good conditionE	Natural veld with scattered aliens[E]	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	**Cultivated land**	Paved surface	Building or other structure	**Bare soil**

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

9. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area
5.2 Low density residential
5.3 Medium density residential
5.4 High density residential
5.5 Informal residential[A]
5.6 Retail commercial & warehousing
5.7 Light industrial
5.8 Medium industrial [AN]
5.9 Heavy industrial [AN]
5.10 Power station
5.11 Office/consulting room
5.12 Military or police base/station/compound
5.13 Spoil heap or slimes dam[A]
5.14 Quarry, sand or borrow pit
5.15 Dam or reservoir
5.16 Hospital/medical centre
5.17 School
5.18 Tertiary education facility
5.19 Church
5.20 Old age home
5.21 Sewage treatment plant[A]
5.22 Train station or shunting yard [N]
5.23 Railway line [N]
5.24 Major road (4 lanes or more) [N]
5.25 Airport [N]
5.26 Harbour
5.27 Sport facilities

5.28 Golf course
5.29 Polo fields
5.30 Filling station [H]
5.31 Landfill or waste treatment site
5.32 Plantation
5.33 Agriculture
5.34 River, stream or wetland
5.35 Nature conservation area
5.36 Mountain, koppie or ridge
5.37 Museum
5.38 Historical building
5.39 Protected Area
5.40 Graveyard
5.41 Archaeological site
5.42 Other land uses (describe)

If any of the boxes marked with an "[N] "are ticked, how will this impact / be impacted upon by the proposed activity?

If any of the boxes marked with an "[An]" are ticked, how will this impact / be impacted upon by the proposed activity?
If YES, specify and explain:
If YES, specify:

If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:
If YES, specify:

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	YES	**NO**
Archaeological or palaeontological sites, on or close (within 20m) to the site?	Uncertain	
If YES, explain:	**Refer to appendix D1: Heritage Impact Assessment Report**	
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		

Briefly explain the findings of the specialist:	**The Phase I HIA study for the Eskom Project Area revealed none of the types and ranges of heritage resources as outlined in Section 3 of the National Heritage Resources Act (No 25 of 1999). There is consequently no reason from a heritage point of view why Eskom's proposed Borutho MTS consisting of five 132kV power lines should not be reconstructed.**

Will any building or structure older than 60 years be affected in any way?	YES	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to—
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  (v) the municipality which has jurisdiction in the area;
  (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  (vii) any other party as required by the competent authority;

(c) placing an advertisement in—
  (i) one local newspaper; or
  (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  (i) illiteracy;
  (ii) disability; or

(iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and
(b) state—
(i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;
(ii) whether basic assessment or scoping procedures are beingapplied to the application, in the case of an application for environmental authorisation;
(iii) the nature and location of the activity to which the application relates;
(iv) where further information on the application or activity can be obtained; and
(iv) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation 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, ratepayers associations and traditional authorities where appropriate. 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 inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

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.

List of authorities informed:

Department of Environmental Affairs
Department of Water Affairs
Limpopo Department of Economic Development, Environment and Tourism.
Department of Rural Development and Land Reform
South African Heritage Resource Agency
Mogalakwena Local Municipality
Polokwane Local Municipality

List of authorities from whom comments have been received:

South African Heritage Resource Agency
Department of Rural Development and Land Reform

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority. Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?	YES	NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

Dep. of Rural Development and Land Reform

All farms and portions that are owned by the Dep. of Rural Development and Land Reform don't have any objection towards the proposed development.

The office will also like to bring to your attention that portions or farms owned by the Dep. of Rural development and Land Reform might also be utilised by the community as it is communal land. It is a requirement that they are as well notified about the proposed development.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, 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.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

Malesela Chokwe: Asked what will be done if the project affected the grave and further pleaded that the consultants must do their work as supposed;

Contractors responsible for construction to take into consideration the vegetation around the proposed areas and to ensure the vegetation is not destroyed unnecessarily;

Lukas Mphela: Complained about electricity problems in the community and asked if the project will address the problem they are facing;

Will this project going to create employment opportunity for the community?

Marokane Aniki: wanted to know what will happen if a grave is discovered during construction phase of the project and also the benefit of the project to the community;

Samuel Langa: wanted to know if the Basic Assessment report be written in Sepedi so that they can understand what in the report.

Mr Tsekane: wanted to know what if a power line passes through some one's yard or over the house, is there going to be any compensation from Eskom.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

A proper reburial will have to made for any grave that is affected by the project if altogether cannot be avoided.

No unnecessary vegetation clearance will be allowed on site.

The electricity problem will be addressed indirectly because this project will strengthen electricity in the area including the surrounding mines.

Jobs will be created to few qualified individuals.

Letters and any other correspondence can be done in Sepedi except for Basic Assessment report which is a standard document made available by the National Department of Environmental Affairs.

Eskom do compensate for the affected property owner through the independent value's report.

For details on this please see Appendix E: Comments and Responses Report

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

Potential impacts associated with the proposed power lines are discussed below. Detailed specialist studies are included in appendix D.

The following methodology was used in assessing impacts related to the proposed development, and the detail regarding assessment and ratings are contained in the specialists reports included in Appendix D:

Extend	
Site	1
Local	2
Regional	3
National	4
International	5
	6
	7
	8

Duration	
Very Short term (0-1 year)	1
Short term (2-5 years)	2
Medium term (5-15 years)	3
Long term > 15 Years	4
Permanent	5

Probability	
Definite (will occur in spite of mitigation)	5
Highly Probable (most likely)	4
Probable (distinct possibility)	3
Improbable (Some possibility but low likelihood)	2

Magnitude	
Small (no effect on environment)	0
Minor (will not result in an impact on process)_	2
low (will cause a slight impact on process)	4
Moderate (will result in process continuing but in a modified way)	6
High (process alternative to the extent that they temporarily cease)	8
Very high (results in complete destruction of patterns and permanent cessation of processes).	10

very improbable (probably will not happen)	1

Rating the different scores was based on the following table:

Significance weights	
Rating	Score
Low negative	Lower than 30
Medium	30-60
High	>60

Significance is determined by combining the following formula
S= (E+D+M) P

S= significance weighting
E=extend
D=Duration
M=Magnitude
P=Probability

The significance weightings for each potential impact are as follows

- < 30 points: Low (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 30-60 points: Medium (i.e. where the impacts could influence the decision to develop in the area unless it is effectively mitigated.),
- >60 points: High (i.e. where the impacts must have an influence on the decision process to develop in the area.)

The status, which describes as positive, negative, or neutral.
The degree to which the impact can be reversed.
The degree to which the impact may cause irreplaceable loss of resources.
The degree to which the impact can be mitigated.

PLANNING AND DESIGN PHASE
Alternative (preferred alternative)

1) Route selection

Nature: Should proper planning not be followed the route could go through environmentally sensitive areas and unregistered servitudes. This could cause disputes and delays to the project.		
	Without mitigation	With mitigation
Extent	Local (4)	Local (4)
Duration	Permanent (5)	Short-term (2)
Magnitude	Low (4)	Minor (2)
Probability	High (4)	improbable (2)

Significance	52 (Medium)	16 (Low)
Status	Negative	Negative
Reversibility	Partially	Reversible
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated during planning and design phase?	No	Yes
Mitigation Measures: Environmental impacts assessment should be conducted before any development could take place. No development should take place before an environmental authorisation could be granted. The land and rights process should be followed and the route agreed with the land owners before any construction activities could take place.		
Cumulative impacts: The placement of too many power lines into one servitude can increase the potential cumulative visual impact associated with the existing power lines, especially on a local scale.		
Residual impacts: N/A		

2) Visual Impacts

Nature: Any change in a local view through the introduction of a new development in the line-of-sight can be considered as a visual impact. Visual impacts are subjective, and are usually considered most significant when the development is not of a similar nature to other developments in the area, or is readily viewed from areas of public access, paths, roads and view points, or in areas which are characterized by significant natural features.		
	Without mitigation	With mitigation
Extent	Local (4)	Local (4)
Duration	Long term (4)	Long term (4)
Magnitude	Low (4)	Low (4)
Probability	High (4)	High (4)
Significance	48	48
Status	Negative	Negative
Reversibility		
Irreplaceable loss of resources?	No	No
Can impacts be mitigated during planning and design phase?	No	Yes
Mitigation Measures: Pylon structures must be chosen such that they provide the smallest impact on visual characteristics.		

Cumulative impacts: The placement of too many power lines into one servitude can increase the potential cumulative visual impact associated with the existing power lines, especially on a local scale.
Residual impacts: N/A

Alternative S2 (if any): impacts will be similar to alternative 1 above

No-go alternative (compulsory)

Not proceeding with the planning and design of the power line will mean that none of the negative impacts identified in Alternative 1 or 2 would take place.

CONSTRUCTION PHASE

Alternative S1 (preferred alternative)

1) Ground and Surface Water pollution

Nature: The proposed power lines traverse water courses at various points of the alignment, this could cause a decline in water quality and pollution of the water courses by construction workers, as well as oil spills and fuel into the stream.		
	Without mitigation	With mitigation
Extent	Site (1)	Site (1)
Duration	Medium term (5)	Short term (1)
Magnitude	Moderate (6)	Minor (2)
Probability	Highly Probable (4)	Probable (3)
Significance	48 (Medium)	12 (low)
Status (Positive or Negative)	Negative	Negative
Reversibility	Partially	High
Irreplaceable loss of resources?	Yes	Insignificant
Can impacts be mitigated	Yes	N/A
Mitigation Measures Construction vehicles are to be maintained in good working order to reduce the potential for leaks and spills. Oil residues must be treated with an oil absorbing substance. It can be done by oil rehabilitation company such as Drizit or ENSA which have contract with Eskom. This polluted material must then be disposed of at licensed waste disposal site. A walled concrete platform, dedicated store with adequate flooring (or berming) and ventilation should be used for the storage of potentially hazardous chemicals such as oils, fuels, paints, insecticides etc. Storage of potentially hazardous substances should be away from any water courses. Contractor/s must provide regularly serviced chemical toilets for the construction workers. No materials may be discharged from the construction camp. An adequate stormwater management plan must be implemented during the construction phase to ensure the controlled flow of water on site.		
Cumulative impacts:		

If no maintenance is done, the impact will have a compounding impact on the environment.

Residual impacts:
If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

2) Erosion and increased sedimentation into the streams.

Nature: Possibility for erosion during construction due to soil types and slopes near rivers and streams. Soil is an important component of the natural environment and acts as a medium for plant growth. Impacts of structural developments on soil resources may be positive (increasing the soil compaction and stability, thereby reducing the potential for erosion) or negative (deteriorating soil structure and disturbing drainage patterns). Generally occurring soil impacts include the exposure of topsoil, compaction by construction machinery and vehicles, loss of productive top soil, loss of land and crops.

	Without mitigation	With mitigation
Extent	local (2)	Site (1)
Duration	Long term (7)	Short term (5)
Magnitude	Moderate (6)	Low (4)
Probability	Highly Probable (4)	Probable (3)
Significance	60 (Medium)	30 (Medium)
Status	Negative	Negative
Reversibility	Moderate	High
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	No	Yes

Mitigation Measures
The construction phase should preferably take place in the dry season especially in area with turf soil.
In areas where vegetation clearing is required, surface water velocity must be dissipated using meter drains at appropriate intervals.
No stockpiles or construction materials may be stored or placed within any drainage line on site, or in areas where water naturally accumulates. Stockpiles must not exceed more than 2m in height. Stockpiles must not be stored for excessively long periods. If it is found that a stockpile will be stored for long periods then it must not exceed a vertical horizontal ratio or 1:1,5m to prevent compaction. Any stockpile stored for long periods must be retained in a bermed area. Stockpiles must be covered during excessively windy conditions.
Where the power lines have to be crossed, the pylons should not be within 50m of the River or Spruit banks and not so close to the River or Spruit that it will cause erosion.

Special care needs to be taken during the construction phase to prevent surface storm water rich in sediments and other pollutants from entering the natural drainage systems/wetlands. In order to prevent erosion, mechanisms are required for dissipating water energy.
• An onsite ecological management plan must be implemented for rivers including management recommendations as well as potential rehabilitation of severely disturbed areas.
No driving through any streams except on existing roads.

Cumulative impacts:
If no maintenance is done, the impact will have a compounding impact on the environment.

Residual impacts:
If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

3) Vegetation Destruction/loss

Nature: Unlike with the construction of large scale infrastructure, minimal vegetation clearance is required for the erection of the power-line. However this action is a disturbance in the natural ecosystem and must be taken into consideration. The largest biomass of vegetation cleared is usually in areas where substations and access roads are required for construction and maintenance purposes. Considering the nature of the development, it is evident that quite a specified surface area will be cleared for construction. Furthermore, clearing of vegetation will, in the most part, be unnecessary as existing access roads are to be used. Where such action is required, large trees will be avoided hence the potential impact on vegetation with this particular project is minimal.
Recommendations from the specialists concerning clearing will also be adhered to

	Without mitigation	With mitigation
Extent	Local (2)	Site (1)
Duration	Permanent (5)	Permanent (5)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Minor (2)
Significance	39 (Medium)	20 (Low)
Status	Negative	Negative
Reversibility		
Irreplaceable loss of resources?	Yes	Insignificant
Can impacts be mitigated	Yes	n/a

Mitigation Measures
Limit vegetation clearance to the servitude for the new power line. This will also prevent the activity footprint from expanding outside the sites boundaries.
Clear guidelines and proper plans must be given to the contractor. Daily inspections are needed to prevent problems.
Ensure re-vegetation of the cleared areas occurs as soon as possible after construction. Nutrient rich top soils must be utilized during the re-vegetation process wherever possible.
Large trees on site must be retained as far as possible. No indigenous trees or woody plant species may be collected for use as firewood. No fires are permitted beyond the campsite boundaries, and no fires may be ignited with the intention to destroy the natural vegetation on site.
Access to the site must be limited to the workforce only, to prevent further disturbance of the vegetation.
Exposed areas should be rehabilitated.

Cumulative impact:

If poor maintenance is done, the impact will have a compounding impact on the environment. One refers to illegal or unnecessary cutting of trees on the power line servitude during routine clearing of vegetation. This must be well managed by all role players (Eskom and conservation authorities).
Residual impact: If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

3) Spread of alien species

Nature: Alien species might spread through the movement of construction on site		
	Without mitigation	With mitigation
Extent	Regional (3)	Site (1)
Duration	Permanent (5)	Short (2)
Magnitude	Moderate (6)	Minor (2)
Probability	Definite (5)	improbable (2)
Significance	70 (High)	10 (Low)
Status	Negative	Negative
Reversibility	Irreversible	High
Irreplaceable loss of resources?	Yes	Insignificant
Can impacts be mitigated	Yes	n/a
Mitigation Measures Need to ensure all alien plants on construction sites are removed. Must clear alien vegetation on a regular basis. Disturbed areas around the construction sites should be rehabilitated		
Cumulative impact: If no maintenance is done, the impact will have a compounding impact on the environment.		
Residual impact: If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant		

4) Safety and Security

Nature: Individuals other than construction workers might enter the construction site without permission and this bridge the security and safety of the proposed works.		
	Without mitigation	With mitigation
Extent	Local (2)	Site (1)
Duration	Short-Term (2)	Short (1)
Magnitude	Low (4)	Minor (2)
Probability	Probable (3)	Improbable (2)
Significance	24 (Low)	8 (Low)
Status	Negative	Negative
Reversibility	Moderate	High
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	Yes	n/a

Mitigation Measures Access to the construction site should be strictly controlled by a security company. 24 hour security on-site. Unsocial activities such as consumption or illegal selling of alcohol, drug utilisation or selling on site should be prohibited. Any persons found to be engaged in such activities shall receive disciplinary or criminal action taken against them. No person shall enter the site unless authorised to do so by the contractor, project manager and ECO If any fencing interferes with the construction process, such fencing shall be deviated until construction is completed. The deviation of fences shall be negotiated and agreed with the landowner in writing. Construction staff is to make use of the facilities provided for them, as opposed to ad-hoc alternatives (e.g. fires for cooking, the use of surrounding bush as a toilet facility are forbidden). Trespassing on private / commercial properties adjoining the site is forbidden. Driving under the influence of alcohol is prohibited. All employees must undergo the necessary safety training and wear the necessary protective clothing. Secure the site in order to reduce the opportunity for criminal activity in the locality of the construction site
Cumulative impacts The impacts will contribute to the overall disturbance of security in the area.
Residual impacts If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

5) Air Pollution

Nature

Air pollution impacts from construction vehicles exhaust emissions and dust generated through various activities of the proposed powerline and substations construction, such as vegetation clearance and movement of construction vehicles on site are expected.

	Without mitigation	With mitigation
Extent	Site (1)	Site (1)
Duration	Short (2)	Very Short (1)
Magnitude	Low (4)	Minor (2)
Probability	Definite (5)	Improbable (2)
Significance	35 (Medium)	8 (Low)
Status	Negative	Negative
Reversibility	Low	High
Irreplaceable loss of resources?	Yes	Insignificant
Can impacts be mitigated	Yes	N/a

Mitigation Measures

Areas cleared of vegetation (including roads, and access points) must be wet down or cleared to prevent unnecessary dust entering the air. Stockpiled material must be either covered with a tarpaulin or wet down to prevent particulates from entering the atmosphere. Vehicles transporting friable materials such as sand, gravel etc must be covered with a tarpaulin, and their speed must be limited to 40km/hr. Rubbish/waste bins must remain covered at all times. All construction vehicles should be in good working order to prevent unnecessary exhaust fumes

Cumulative impacts:
If mitigation measures are fully implemented and adhered to, the proposed activity should not result in further degradation of the air quality.

Residual impacts:
If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

6) Loss of Faunal Species

Nature: During the construction phase and maintenance of power lines and substations, some habitat destruction and alteration inevitably takes place. This happens with the construction of access roads, and the clearing of servitudes. These activities have an impact on birds breeding, foraging and roosting in or in close proximity of the site, through the modification of habitat. The construction workers might also kill animals and reptiles (such as snakes) on site.

	Without mitigation	With mitigation
Extent	Local (2)	Site (1)
Duration	Short (2)	Very short (1)
Magnitude	Moderate (6)	Small (0)
Probability	Probable (3)	Very improbable (1)
Significance	30 (Medium)	2 (low)
Status	Negative	Neutral – low
Reversibility	Moderate	High
Irreplaceable loss of resources?	No	No
Can impacts be mitigated	Yes	n/a

Mitigation Measures
Workers must be made aware of the Animal Protection Act (Act 71 of 1962), as well as the penalties that will incur should an animal be intentionally harmed, or harmed as a result of negligence. No animals may be brought into the construction site, or camp. The construction site must be kept clean and litter free to prevent attracting vermin or pest species. The riparian zone of the Elands river should not be disturbed during construction.

Cumulative impact:
Significant without mitigation.

Residual impact:
Negligible if mitigation measures are adhered to.

7) Noise Pollution

Nature: Heavy machinery is often required for construction works. This machinery contributes tremendous amounts of sustained noise. Such noise elevations affect the environment by:

- Sonically vibrating structures
- Presenting a danger to human welfare

Even when it is not perceived consciously, the noise elevations can affect human welfare in varying degrees, both physiologically and psychologically. It becomes a source of annoyance, creating communication problems and leading to elevated

stress levels as well as associated behavioural and health effects.		
	Without mitigation	With mitigation
Extent	Local (2)	Site (1)
Duration	Short (2)	Very Short (1)
Magnitude	Moderate (6)	Minor (2)
Probability	Probable (3)	Improbable (2)
Significance	30 (Medium)	8 (Low)
Status	Negative	Negative
Reversibility	Moderate	High
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	Yes	n/a

Mitigation Measures

The construction phase must aim to adhere to the relevant noise regulations and limit noise to within standard working hours in order to reduce disturbance of residential areas in close proximity to the development. Construction site yards, workshops, and other noisy fixed facilities should be located well away from noise sensitive areas. Once the proposed final layouts are made available by the contractor(s), the sites must be evaluated in detail and specific measures designed into the system. Truck traffic should be routed away from noise sensitive areas, where possible. Noisy operations should be combined so that they occur where possible at the same time. Blasting operations (if required) are to be strictly controlled with regard to the size of explosive charge in order to minimise noise and air blast, and timings of explosions. The number of blasts per day should be limited, blasting should be undertaken at the same times each day and no blasting should be allowed at night. Construction activities are to be contained to reasonable hours during the day and early evening. Night-time activities near noise sensitive areas should not be allowed. With regard to unavoidable very noisy construction activities in the vicinity of noise sensitive areas, the contractor and ECO should liaise with local residents on how best to minimise impact, and the local population should be kept informed of the nature and duration of intended activities. As construction workers operate in a very noisy environment, it must be ensured that their working conditions comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993). Where necessary ear protection gear should be worn.

Noise suppression measures must be applied to all construction equipment. Construction equipment must be kept in good working order and where appropriate fitted with silencers which are kept in good working order. Should the vehicles or equipment not be in good working order, the contractor may be instructed to remove the offending vehicle or machinery from site. The contractor must take measures to discourage labourers from loitering in the area and causing noise disturbance. Where possible labour shall be transported to and from the site by the contractor or his Sub-Contractors by the contractors own transport.

Cumulative impact:

If mitigation measures are fully implemented and adhered to, the proposed activity should not result in increased noise levels in the area. .

Residual impact:

If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant.

8) Waste generation

Nature: Waste material may be generated during the construction phase of the project. Such waste may accumulate from the workers campsite or from litter left around the work area by the construction team. Other waste substances may accumulate from cement bags amongst other construction material.		
	Without mitigation	With mitigation
Extent	Local (2)	Site (1)
Duration	Short (2)	Very Short (1)
Magnitude	Moderate (6)	Minor (2)
Probability	Probable (3)	Improbable (2)
Significance	30 (Medium)	8 (Low)
Status	Negative	Negative
Reversibility	Moderate	High
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	Yes	n/a
Mitigation Measures Construction rubble shall be disposed of in pre – agreed, demarcated spoil dumps that have been approved by the relevant Municipality. Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the work sites as well as the Contractor campsite. All waste must be removed from the site and transported to a suitably permitted landfill site. All waste hazardous materials must be carefully stored as advised by the ECO, and then disposed of offsite at a licensed landfill site. Contaminants to be stored safely to avoid spillage Machinery must be properly maintained to keep oil leaks in check.		
Cumulative impact: Significant without mitigation.		
Residual impact: Negligible if mitigation measures are adhered to.		

9) Archaeological objects

Nature: Objects of Archaeological might not be evident on the proposed alignment but might be uncovered during excavations works. This can be destroyed if the contractor is not fully trained on how to deal with such objects.		
	Without mitigation	With mitigation
Extent	Site (1)	Site (1)
Duration	Permanent (5)	n/a
Magnitude	High (8)	Small (0)
Probability	improbable (2)	Very improbable (1)
Significance	28 (Low)	1 (Low)
Status	Neutral- Negative	Positive
Reversibility	Non-reversible	Non-reversible
Irreplaceable loss of resources?	No	No
Can impacts be mitigated	Yes	Impacts can be avoided

Mitigation Measures **Should any graves be uncovered work should stop in the area where archaeological object where uncovered. Environmental officer as well as the South African Heritage Resource Agency (SAHRA) should be informed if any artefacts are uncovered in the affected area. The contractor must ensure that his workforce is aware of the necessity of reporting any possible historical or archaeological find to the ECO so that appropriate action can be taken. Any discovered artefacts shall not be removed under any circumstances. Any destruction of a site can only be allowed once a permit is obtained and the site has been mapped and noted. Permits shall be obtained from the South African Heritage Resources.**
Cumulative impacts: N/a
Residual impacts: N/a

Alternative S2 (if any): impacts similar to alternative 1 above

NO-GO ALTERNATIVE (COMPULSORY)

If the power line is not constructed, none of the identified construction impacts will occur. However, current and future mines in the area will have on electricity supply and therefore no economic development.

OPERATIONAL PHASE

Alternative S1 (Preferred Alternative)

1) Avi-faunal

Nature: Electrocution of Birds
A mono-pole steel pole will be used for the proposed 132kV powerline. Clearance between phases on the same side of the pole structure is normally around 2.2m for this type of design, and the clearance on strain structures is 1.8m. This clearance should be sufficient to prevent phase – phase electrocutions of birds on the towers. The length of the stand-off insulators is likely to be a maximum of 1.5 metres. This is relevant as birds such as vultures are able to touch both the conductor and the earthed pole simultaneously potentially resulting in a phase – earth electrocution. This is particularly likely when more than one bird sits on the same pole.

Collisions with the proposed power line.
The River which is crossed by both the proposed alignments might potentially hold some attraction to the Black Stork and Yellow-billed Stork when pools form in the channel, and also for large raptors and vultures that use the pools for drinking and bathing. The new lines will cross the river and might be a potential cause of collisions for these species and other, non-Red Data species such as certain species of ducks, waders and possibly Hamerkops Scopus umbretta.

	Without mitigation	With mitigation
Extent	National (4)	Site (1)
Duration	Permanent (5)	Short (2)

Magnitude	Moderate (6)	Low (4)
Probability	High (4)	Improbable (2)
Significance	60 (Medium –High)	14 (Low)
Status	Negative	Negative
Reversibility	Not reversible	Not reversible
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated?	Yes	Yes
Mitigation Measures: The span that crosses drainage lines should be marked with Bird Flight Diverters on the earth wire of the line, five metres apart, alternating black and white. • The poles should be fitted with bird perches on top of the poles to draw birds, particularly vultures, away from the potentially risky insulators.		
Cumulative impacts: Not significant, this area is already impacted by existing powerlines.		
Residual impacts: Low		

2) Power line maintenance

Nature: Security: Non-compliance to a power line maintenance schedule would result in the line becoming overgrown and perhaps incurring damage.		
	Without mitigation	With mitigation
Extent	Site (1)	Site (1)
Duration	Long term (4)	Short (2)
Magnitude	Moderate (6)	Low (4)
Probability	Probable (3)	Improbable (2)
Significance	33 (Medium)	14 (Low)
Status	Negative	Negative
Reversibility	Not reversible	Reversible
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated?	Yes	Yes
Mitigation Measures: Regular inspection of the power line must take place to monitor its operational status. Access to the power line servitude must be restricted. Access to the power line servitude should ideally be fenced off and gated along the main access roads.		
Cumulative impacts: If no maintenance is done, the impact will have a compounding impact on the environment.		
Residual impacts:		

Low

3) Loss of natural vegetation

Nature: long term to permanent damage to natural vegetation within the servitude as a result of repeated bush cutting and possibly as a result of repeated use of access track.		
	Without mitigation	With mitigation
Extent	Local and Regional (3)	Site (1)
Duration	Long term (4)	Very Short (1)
Magnitude	High (8)	Low (4)
Probability	Probable (4)	Probable (3)
Significance	60 (High)	18 (Low)
Status	Negative	Negative
Reversibility	Mostly not	Yes
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	n/a	Partially
Mitigation Measures Restrict bush cutting to once every ten or twelve years; or not at all if natural vegetation burn at this time. Minimise use of access tracks in natural areas.		
Cumulative impact: Significant without mitigation,. as servitude requires clearing for the seven lines		
Residual impact: Negligible if mitigation measures are adhered to.		

4) clearing of alien species

Nature: long term benefit to natural vegetation within servitude if alien species in this area is appropriately managed and bush cutting is done at appropriate intervals.		
	Without mitigation	With mitigation
Extent	Local and Regional (3)	local (2)
Duration	Long term (4)	Short (2)
Magnitude	High (8)	Low (4)
Probability	Probable (4)	improbable (2)
Significance	60 (High)	16 (Low)
Status	Negative	Positive
Reversibility	Partially	There is no impact in this case.
Irreplaceable loss of resources?	Yes	No
Can impacts be mitigated	Yes	Yes
Mitigation Measures Must clear alien vegetation on a regular basis. Restrict bush cutting to once every ten or twelve years; or not at all if natural vegetation burn at this time.		
Cumulative impact: If no maintenance is done, the impact will have a compounding impact on the environment.		
Residual impact:		

If mitigation measures are fully implemented and adhered to, residual impacts should be insignificant

Alternative S2 (if any): **impacts Similar to alternative 1 above**

NO-GO ALTERNATIVE (COMPULSORY)

- **If the power line is not operated, none of the negative impacts identified will take place.**

DECOMMISSIONING AND CLOSURE PHASE
Alternative S1 (Preferred Alternative)

Not likely to happen, however, similar impacts as the construction phase would be applicable during decommissioning of the proposed project. However the natural functioning of the ecosystem might be restored to its original state should the decommissioning be well rehabilitated.

Alternative S2

No-go alternative (compulsory)

The powerline will continue to operate and supply electricity to the mines and the impacts associated with operational phase would apply.

PROPOSED MONITORING AND AUDITING

Through an ECO (ECO to be appointed by the client, in order to ensure efficient monitoring is achieved) monitoring and an Environmental Management Plan (EMP) ensure the following is addressed:

Design

- **Review proposed project scope against industry Best Practice**

Guide

The following should be monitored by the ECO during the construction phase:

- **All waste sent to registered landfill site (waybills to be checked);**
- **Limit construction activities resulting in noise generation to day time only;**
- **Dust mitigatory measures are employed to certain areas and during certain times;**
- **Spillages are cleaned up immediately;**
- **Demarcation of site and no-go sensitive areas;**
- **Demarcation of construction site / areas and prevent public access to these sites;**
- **Monitoring of vehicle usage on the roads;**
- **Implement fines as part of contract for wilful negligence or noncompliance;**
- **Monitor complaints, investigate and implement rectifying measures;**
- **Monitor areas for pollution and degradation. Ensure implementation of identified rectifying measures.**

Operation:

- **Rehabilitation of any damage to sensitive areas, including potential erosion from**

construction activities or storm water run-off;
- Ensure appropriate annual budgets for maintenance and implement appropriate maintenance;
- Implement a process to capture & address public recommendations, complaints and / or requests.

Audit:
- EMP adherence.
- Appoint Environmental Control Officer.
- Compile monthly report.

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity 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 actually occurring and the significance of impacts.

This report is intended to offer an objective assessment of the concerns, which were raised during the basic assessment phase of the study as well as through the technical expertise, which lie within the environmental practitioners. The purpose of this report is to ascertain the impact of the proposed development on the environment, of which we are part, and the probability of the impacts manifesting themselves. Ultimately the report should allow the relevant authority the opportunity to make an informed decision regarding the development and the various options. The proposed construction of 5x 132 kV power lines will have a limited environmental impact on the surrounding environment as long as all mitigation measures are correctly implemented. If the aforementioned recommendations and mitigation measures are managed and implemented accurately, the majority of the identified impacts will be at environmentally acceptable levels.
The following impacts were identified as those of main concern. The significance rating for each impact with and without mitigation has been summarised in the following table:

Impact	Without mitigation	With mitigation
Loss of natural vegetation	Medium	Low
Surface water pollution	Medium	Low
Spread of alien species	Medium- high	Low
Electrocution of birds	Medium -High	Low
Birds collusion	Medium-High	Low

No-go alternative (compulsory)

The no-go option will mean no development in the area and therefore the status quo will remain. However this will mean no economic development in the area. With the recommended mitigation measures followed the proposed project will have negligible

impact on the environment. Therefore the development option far outweighs the no-go option.

SECTION E. RECOMMENDATION OF PRACTITIONER

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)?	**YES**	NO

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process 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:

No specific conditions are recommended to be included in the authorization that may be granted by the competent authority, other than specifying that all stipulations and recommendations contained with the Environmental Management Plan (EMP) – Appendix G – be strictly adhered to.

Is an EMPr attached?	**YES**	NO

The EMPr must be attached as Appendix F.

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: Site plan(s)

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports

Appendix E: Comments and responses report

Appendix F: Environmental Management Programme (EMPr)

Appendix G: Comments from the stakeholders

APPENDIX A: SITE PLAN(S)

APPENDIX B: PHOTOGRAPHS


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APPENDIX C: FACILITY ILLUSTRATION(S)

APPENDIX D: SPECIALIST REPORTS

Appendix D1: Heritage Impact Assessment (HIA)

Appendix D2: Bird Impact Assessment Study

Appendix D3: Botanical Impact Assessment Study

APPENDIX E: COMMENTS AND RESPONSES REPORT

APPENDIX F: ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

APPENDIX G: COMMENTS FROM STAKEHOLDERS