

BASIC ASSESSMENT REPORT



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, 2014, 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, 2014 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. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. 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.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. 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.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

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 the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

Eskom Rampheri-Thabamooop North Project

(Previously referred to as the Eskom Syferkuil-Rampheri Project)

Eskom is currently in the process of upgrading of various electrical networks in the Limpopo Province. This Eskom Rampheri- Thabamooop North Project forms part of this vision and upgrade. The project entails the following:

- A 132kV power line of approximately 23km from the future Rampheri Substation to the existing Thabamooop North Substation;
- Construction of a new 132kV Unin Substation adjacent to the existing Unin Substation (to be extended by approximately 1,2 hectares) and the decommissioning of the existing Unin 33kV substation.
- A Loop in – Loop out power line of less than 200m to the proposed 132kV Unin substation
- Proposed new Syferkuil Substation;
- Decommissioning of the existing Syferkuil Substation
- A Loop in – Loop out of less than 200m to the proposed new Syferkuil substation
- The decommissioning of the existing 33kV line between the Syferkuil and Thabamooop North Substations
- A Customer Network Centre close to the Rampheri Substation;
- A Customer Network Centre close to the proposed Syferkuil Substation;

The study site is situated approximately 25km east of central Polokwane, along the R71 route. The proposed Rampheri-Thabamooop 132kV powerline servitude lies predominantly in a north-south direction, from Mankweng in the north to Rampheri in the south. The study area is within the Polokwane Municipality, Capricorn District of the Limpopo Province.

Three route alternatives for the proposed powerline were investigated, each with a study area width of 1km.

Please note that Environmental Authorisation for the future Rampheri Substation was obtained through a separate environmental process and does therefore not form part of the proposal.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listing Notice 1	
<p>GN 983, Dec 2014, Number 11 The development of facilities or infrastructure for the transmission and distribution of electricity- (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more</p>	<p>Approximately 24km of 132kV power lines will be constructed and two substations will be upgraded. Two new Customer Network Centres will also be constructed.</p>
<p>GN 983, Dec 2014, Number 27 The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>The Rampheri CNC will be constructed on more than 1 hectare of land situated within old, cultivated fields that have gone back impart to bushveld.</p>
<p>GN 983, Dec 2014, Number 31 The decommissioning of existing facilities, structures or infrastructure for- (i) any development and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; (ii) any expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; (iii) any development and related operation activity or activities and expansion and related operation activity or activities listed in this Notice, Listing Notice 2 of 2014 or Listing Notice 3 of 2014; (iv) any phased activity or activities for development and related operation activity or expansion or related operation activities listed in this Notice or Listing Notice 3 of 2014; or (v) any activity regardless the time the activity was commenced with, where such activity: (a) is similarly listed to an activity in (i), (ii), (iii), or (iv) above; and (b) is still in operation or development is still in progress; excluding where- (aa) activity 22 of this notice applies; or (bb) the decommissioning is covered by part 8 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies.</p>	<p>The existing Unin and Syferkuil Substations will be decommissioned once the new substations are in operation. This forms part of the infrastructure for the distribution of electricity via the new 132kV power line.</p>

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 as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the

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purpose and need of the proposed activity (NOT PROJECT) 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (Preferred Alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

In the case of linear activities:

Alternative:

Latitude (S):

Longitude (E):

Preferred Route Alternative

- Starting point of the activity (Rampheri Sub)
- Middle/Additional point of the activity
- End point of the activity (Thabamooopo Sub)

24° 01' 25.09" S	29° 43' 51.89" E
23° 57' 00.30" S	29° 44' 50.16" E
23° 53' 28.53" S	29° 42' 10.30" E

Route Alternative 1

- Starting point of the activity (Rampheri Sub)
- Middle/Additional point of the activity
- End point of the activity (Thabamooopo Sub)

24° 01' 25.09" S	29° 43' 51.89" E
23° 57' 36.68" S	29° 44' 44.46" E
23° 53' 28.53" S	29° 42' 10.30" E

Route Alternative 2

- Starting point of the activity (Rampheri Sub)
- Middle/Additional point of the activity
- End point of the activity (Thabamooopo Sub)

24° 01' 25.09" S	29° 43' 51.89" E
23° 57' 09.21" S	29° 44' 09.97" E
23° 53' 28.53" S	29° 42' 10.30" E

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.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

ROUTE DESCRIPTION

The landcover or landuse of the study area is a mix of high-density urbanisation; low-density urbanisation; cultivated lands; grazing lands; degraded veld; open natural veld and granite koppies.

The Syferkuil, Unin and, Thabampo Substations and a large section of the power line are within high-density urbanised areas. That is basically within the city environment. The approved Rampheri Substation and proposed Rampheri CNC are situated within old, cultivated fields that have gone back impart to bushveld. Most of the proposed route is within built-up areas (high and low density) and cultivated lands. However, there are areas of open bushveld and small streams as well. Most of the bushveld is degraded or over-utilised with small patches of near-pristine bushveld. There are no high or commercial agricultural areas within the study area. A small part in the northern section of the route runs adjacent to the Turfloop Nature Reserve, on land belonging to the University of the North. The bushveld in the reserve and university area is in a good condition.

ROUTE CORRIDORS

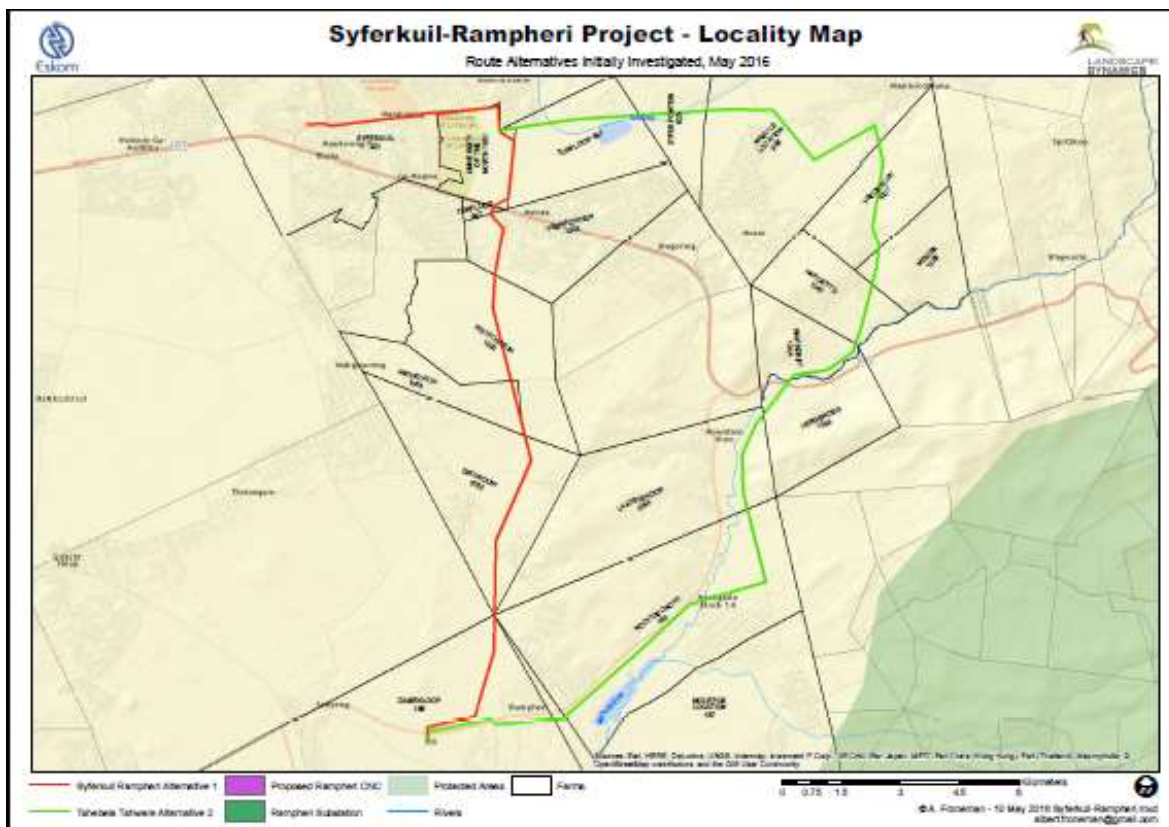
A 1km wide route corridor is being investigated (500m on both sides of the power line). This route corridor will be approved by the Department of Environmental Affairs, which will allow for slight deviations of the power line within the approved corridor.

Please note that the power line will not be constructed in the Turfloop Nature Reserve, but adjacent to it. The approved corridor in this section of the line is therefore only 500m to the west of the power line.

SELECTING AN ALTERNATIVE

The maps below are also attached in Appendix A

ROUTES ORIGINALLY INVESTIGATED



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Green route

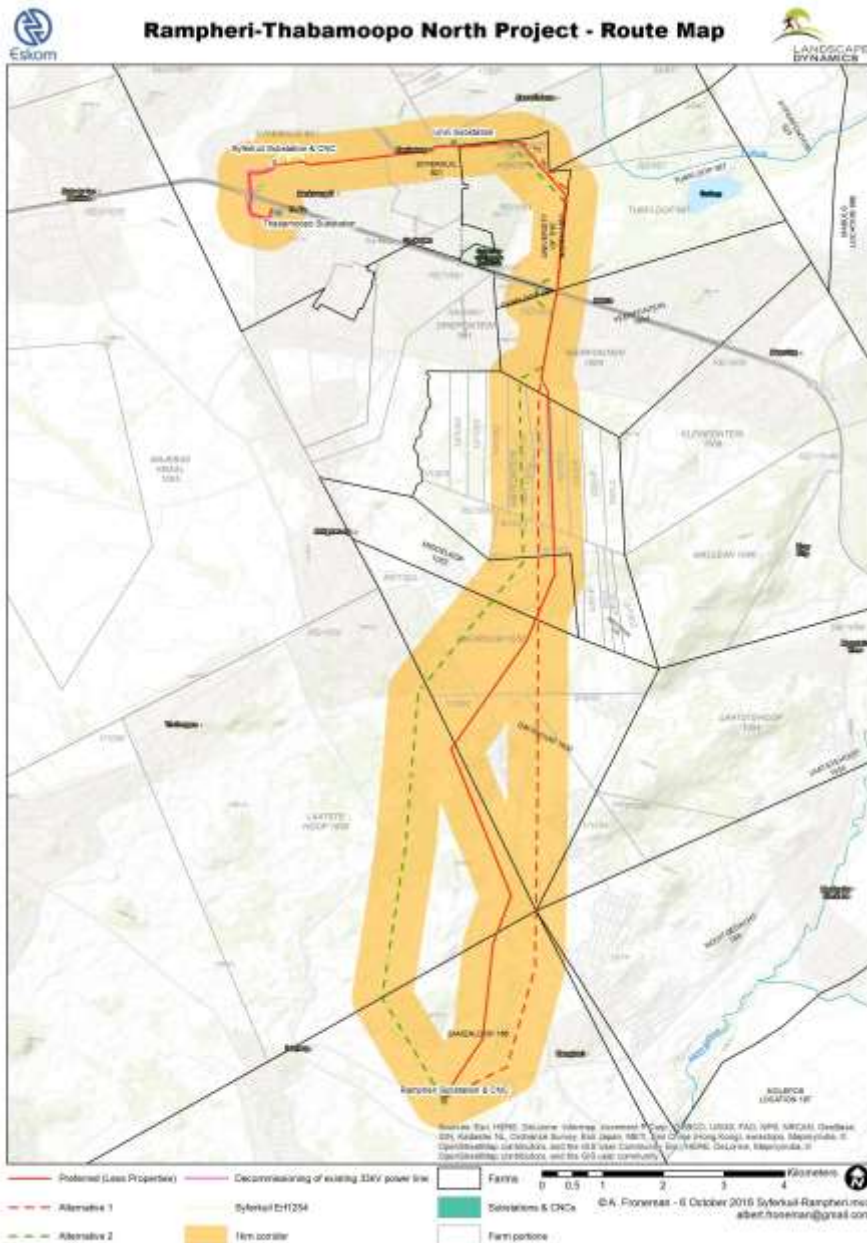
Eskom originally planned to construct a new substation at Moira, and the green route shown above is the route that would have had connected the Rampheri Substation with the Moira Substation and onwards to the Thabamopo North Substation. This is however not applicable anymore due to various technical reasons within the wider electrical network as well as the sensitivity of the environment within this route corridor. This plan was scrapped by Eskom.

Red route

The red route was the original route and the route based on which the three alternatives as proposed in this report was planned. The alternatives are presented below are technically more suitable than this red route.

ALTERNATIVE ROUTES INVESTIGATED

The routes as mapped below were distributed during the public participation process and are also the routes on which the specialists' studies were based (also refer to Appendix A for a copy of this map).



Public Participation

No objection to any route alternative was received during the public participation process conducted for this project.

SPECIALIST STUDIES

A concise summary of the specialists' studies as well as their selection of an alternative route are given below.

Terrestrial Ecology

Vegetation

The vegetation of the study area is typical of that of Polokwane Plateau Bushveld. The undulating plains are covered with a short, open upper tree layer and with a well-developed lower grassy layer. Acocks (1953) classified the vegetation unit as a grass veldtype and not a bush veldtype.

The vegetation in the north is largely disturbed and transformed. This is to be expected because it is situated within a high-density urban area. The most pristine bushveld is to the south where the investigated corridors run north of Rampheri within a broad valley area. However, even here there is low- to medium-density urbanisation as well as impacts on the veld by grazing by free-roaming cattle and goats.

Numerous granite koppies, typical of Mambolo Mountain Bushveld are spread throughout the 1km corridor. The vegetation of the koppies, which are very rocky, tends to be dominated by small trees and shrubs. The rock slabs or domes are sparsely vegetated, and then mostly with a mixture of xerophytic or resurrection plants, with several succulents, such as *Euphorbia* tree-species.

Priority species

No Red Data plant species (endangered, threatened or vulnerable) were observed during field investigations. According to the SANBI database a few Red Data species have been recorded in the region of the QDS quadrants, but it is unlikely that any of these species are present in the actual power line routes. This however, it is not to say for certain that none occur, as some may well occur in the rocky areas and on the granite koppies, such as the *Euphorbia* species. For these and other reasons the granite koppies are viewed as sensitive, 'no-go' areas.

Protected trees in the study area

The marula (*Sclerocarya birrea subsp. caffra*) is a protected tree and was observed in the study area. This included near the Thabampo Substation, within the power line corridor.

Sensitivity analyses

The ecological sensitivity of the study area is determined by combining the sensitivity analyses of both the floral and faunal components.

Ecological community	Floristic sensitivity	Faunal sensitivity	Ecological sensitivity	Development Go-ahead
Bushveld	Medium	Medium	Medium	Go-But
Cultivated lands & Urban areas	Low	Medium/Low	Medium/Low	Go-Slow
Granite Koppies	Medium/High	High	High	No-Go
Watercourses	Medium	Medium/High	Medium/High	Go-But

Summary

- The Substations and CNCs are not within any sensitive areas or priority areas.
- There are 3 main sensitive areas within the study area and these are along all 3 route alternatives.
- The route alternatives pass through a formal nature reserve area, the Turfloop Nature Reserve.
- All granite koppies are viewed as sensitive, no-go areas.
- There are two areas along the the Preferred and Alternative 1 Routes where care needs to be taken with pole positions due to watercourses and erosion areas.
- There are protected trees (marula) within the powerline corridors.
- It is recommended that a final walk-through be undertaken to fine-tune final line alignment and pole positions for the powerlines to avoid sensitive areas and protected trees.
- With the application of proposed mitigation measures, the impact of the project on the fauna and flora could be reduced to a low impact.

Selecting an alternative

Line variant recommendations are made on the strength and combination of all the impacts and mitigating actions, as well as on the sensitivities of the various biophysical features, faunal habitats and vegetation types that each proposed route alternative impacts on. A comparison between the three alternative routes as to the number of ecologically sensitive units each one potentially impacts on, is shown below.

Ecological Sensitive Units	Preferred Route	Route Alternative 1	Route Alternative 2
Areas of High ecological sensitivity	1	1	1
No-Go areas in close proximity	0	0	0
No. of river & stream crossings	1	2	0
No. of major drainage line crossings	3	3	4
Rocky outcrops in corridor	0	0	3
Ridges in corridor	0	0	0
Major Wetlands encountered	0	0	0
Total impacts per route	5	6	8

Route Alternatives 1 & 2 have more sensitive areas that they impact on compared to the Preferred Route Alternative. Route Alternative 2 also tends to impact more and come closer to more granite koppies, which are seen as very sensitive. Route Alternative 2 also tends to run through more, natural bushveld thereby potentially causing greater impact on the natural environment than the other two alternatives.

Taking all of the above issues into account, the Ecological recommended line variant for the proposed project is the Preferred Route Alternative.

Aquatic Ecology

Watercourses in the study area

The main perennial and/or large rivers of the region are not within the study area. A main tributary of the Turfloop River is within the northern section of the study area. In the southern section is a tributary of the Thlabasane River. Both these tributaries are unnamed on maps and are semi-perennial streams.

Besides the two main tributaries mentioned above, there are a few small drainage lines in the study area. These are seasonal in nature and tend to flow for a few days only after good rainfalls. There are no wetlands in the study area.

Drivers of ecological change

The main drivers of ecological change on the watercourses and water ecosystems are:

- Cultivation;
- Impoundment by means of in-channel farm dams;
- Urbanisation; and
- Over-utilisation of natural resources.

Power lines generally have a small impact on watercourses, especially in terms of impeding and/or diverting water flow and their potential impact in the study area is not a major driver of ecological change on the water environment.

Priority areas

The route corridor is predominantly outside of any priority areas and none of the substations or CNCs is within any priority areas. The middle of Route Alternative 1 crosses over a NFEPA 'wetland area', which is actually a farm dam.

Water Use License / General Authorisation

A walk-down exercise will be undertaken in the final design phases of the project development in order to determine the final pylon positions. Pylons will be placed in such a manner that no pylons will be within 32m from the banks of any watercourse.

Correct pole placement will also ensure that a Water Use Licence Application / General Authorisation from the Department of Water & Sanitation is not required.

Taking all of the above issues into account, the Ecological recommended line variant for the proposed project is the Preferred Route Alternative.

Bird Impact Assessment

In general, the habitat through which the proposed alignments run is low to moderately sensitive from a potential bird impact perspective. The remaining natural habitat is woodland and is likely to attract a number of Red Data power line sensitive species, but there are also evidence of anthropogenic impacts, which is visible in the disturbed state of the majority of the woodland. This has had a negative impact on avifaunal diversity and abundance and is reflected in the low reporting rates for power line sensitive Red Data species, which may also indicate that levels of disturbance are high.

The proposed power line poses a moderate collision risk which can be reduced to low through the application of mitigation measures. The electrocution risk is assessed as low, due to the proposed structure type, and can be reduced to very low with appropriate mitigation. The habitat transformation and disturbance associated with the construction and decommissioning of the power line, substations and CNCs should have a moderate impact, which could be reduced to low with appropriate mitigation.

The project can proceed subject to the implementation of the following recommendations:

- An avifaunal walk through of the final power line route should be conducted prior to construction, to identify any Red Data species that may be breeding on the site or within the immediate surrounds and to ensure that any impacts likely to affect Red Data breeding species (if any) are adequately

managed. In addition, the walk-through should be used to identify the exact sections of power line requiring collision mitigation.

- The correct bird-friendly pole structure (as per the Bird Impact Assessment Report attached in Appendix D) must be utilised to avoid electrocution.
- In addition to this, the normal suite of environmental good practices should be applied, such as ensuring strict control of staff, vehicles and machinery on site and limiting the creation of new roads as far as possible.

Selecting an alternative

The three powerline alternatives are very similar in terms of envisaged impacts on avifauna. All of them cross through essentially the same mosaic of relic areas of savanna, large areas of fallow lands, subsistence agriculture and urban development. No preferred alternative can therefore be identified, as all three alternatives are acceptable options from a bird impact assessment perspective.

Heritage Resources

Burial Ground at Mothapo

Burial grounds are sacred reservations. Alternative Route 1 passes immediately north of the cemetery at Mothapo through a gap with hills. This makes this route less suitable for reasons of proximity to the graves if other less difficult options exist.

Protection of Aloes

A colony of giant aloes identified as *Aloe excelsa* is located within the route corridor of the Preferred Route. Aloes have proven herbal properties and they are applied for a wide range of human ailments. They are also used for treating sick chickens. As such they are culturally important and must be protected. Erecting overhead power lines over a colony of aloes cannot be regarded as inappropriate provided that the individual plants affected by pylon footings are transplanted.

Recommendations and Conclusions

- Alternative Route 1 passes close to the cemetery at Mothapo where a buffer of at least 100m would be required. This makes it less suitable if other less difficult options exist.
- The colony of giant aloes (*Aloe excelsa*) within the Preferred Route corridor must be protected. However erecting overhead power lines over a colony of aloes cannot be regarded as inappropriate; individual plants affected by pylon footings should be transplanted.
- This study confirms suitability of the Preferred Route subject to precautions taken to protect aloe colonies. As a standard requirement if heritage resources were to be found during the construction phase, the relevant heritage authorities i.e. SAHRA and/or LIHRA, will be notified immediately and a heritage expert called to attend.
- No historically significant sites that are protected in terms of the National Heritage Resources Act 25 of 1999 will be affected by the proposed project.
- In conclusion it is recommended that if unmarked human burials are discovered during the powerline development, they should be relocated to a formal graveyard. The removal must be conducted with due respect for the customs and beliefs of the affected community/ relatives.

Confirmation of the Preferred Route

This heritage study confirms suitability of the Preferred Route subject to precautions taken about the aloes.

PREFERRED ROUTE ALTERNATIVE

The Preferred Route for this project is the route as indicated on the map as *Preferred Route*:

- This route is favoured by the specialists as described in the paragraphs above.
- It is favoured by Eskom because, even though longer than Route Alternative 1 and 2, it has fewer properties that will be directly affected by the power line.
- No objections were received to the use of this route.

Route Alternative 1

Route Alternative 1 is not the preferred route alternative due to the following:

- This route passes immediately north of the *Burial Ground at Mothapo*. This makes this route less suitable for reasons of proximity to the graves if other less difficult options exist.
- This route is not favoured by Eskom due to the high number of properties involved.

Route Alternative 2

Route Alternative 2 is not the preferred route alternative due to the following:

- This route is not favoured by Eskom due to the high number of properties involved.
- It is the longest of the three routes, thereby adding to the construction as well as maintenance costs.

Conclusion on selecting an alternative

Once mitigation measures have been applied, the Preferred Route Alternative would have a low and acceptable impact on the environment. The Preferred Route is therefore the alternative that is recommended for environmental authorisation

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)	
Alternative 2	

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Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)		
Alternative 2		
Alternative 3		

e) No-go alternative

Eskom is currently in the process of the upgrading of various electrical networks in the Limpopo Province and this Rampheri- Thabamoopo North Project forms part of this vision and upgrades. To *not* construct the new 132kV power line, *not* upgrade the substations, to *not* construct the new CNCs and to continue the use of the 33kV power line, will have a huge negative impact on various electrical networks within the province.

The no-go option is definitely not the preferred alternative for this project.

Paragraphs 3 – 13 below should be completed for each alternative.

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:

Alternative A1¹ (preferred activity alternative)

Alternative A2 (if any)

Alternative A3 (if any)

Size of the activity:

	m ²
	m ²
	m ²

or, for linear activities:

Alternative:

Preferred Route Alternative

Route Alternative 1

Route Alternative 2

Length of the activity:

	± 23.07 km
	± 23.04 km
	± 23.55 km

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

¹ "Alternative A.." refer to activity, process, technology or other alternatives.

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Alternative:

Preferred Route Alternative
Route Alternative 1
Route Alternative 2

Size of the site/servitude:

31m wide servitude will be registered
31m wide servitude will be registered
31m wide servitude will be registered

4. SITE ACCESS

Does ready access to the site exist?

YES	NO
	m

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Access to the Rampheri CNC will be gained via the access roads for the Rampheri Substation, which formed part of another EIA process.
Access to the Unin, Syferkuil and Thabamopo North substations already exists (it is situated adjacent to tar roads and within an urban area).
New access roads for both construction and maintenance purposes are not required.

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.

5. 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 accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s);
- 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).

6. LAYOUT/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:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. 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 report. It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 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.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES	NO	Please explain
<p>Servitudes will be registered along the powerline route. The servitude width will be 31m.</p>			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
<p>The sectoral policies, objectives and implementation strategies proposed by the July 2012 PSDF are informed by, amongst others, the need for bulk engineering and social services including electricity, water, health, education, housing, and recreational facilities.</p> <p>Housing is one of the basic human needs that have a profound impact on health, welfare, social attitudes and economic productivity of the individual. In achieving the Millennium Development Goals, the South African government is to ensure that its citizens live in good housing conditions. In order to achieve this goal, the government aims to eliminate all informal dwellings, bucket type toilets, and ensure that all citizens have access to electricity for lighting, and access to clean, safe water within a reasonable distance.</p> <p>Economic development opportunities are the key determinant in the settlement pattern of the Limpopo Province. Economic development, in turn, typically responds to the availability of Environmental Capital (e.g. water, suitable agricultural soil, mining resources, etc.) and Infrastructural Capital (e.g. roads, electricity, bulk engineering services, etc.).</p> <p>The proposed new 132kV power line, upgrade to the substations and construction of the Customer Network Centres will ensure an adequate electricity supply within the macro area and local municipality. These municipalities will be in a position to distribute electricity further to the local communities in which it operates.</p> <p>It is therefore clear that the project as proposed could assist the Limpopo Province in achieving their development and service delivery goals.</p>			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
<p>Not applicable</p>			
(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO	Please explain
<p>According to the City of Polokwane Integrated Development Plan 2016 – 2021, the following applies:</p> <ul style="list-style-type: none"> The National Spatial Development Perspective (NSDP) (Presidency, 2006) is the primary spatial lens through which policymakers view socio-economic development in the country as a whole. It 			

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presents wide variety of socio-economic trends emerging in South Africa, and then draws inferences about how that emerging space economy should affect public investment (expenditure) in the immediate future.

Those interpretations and conclusions are, however, guided by a number of normative principles that ultimately steer national infrastructure investment and development decisions. NSDP principles, amongst other are

- Sustained, inclusive and rapid economic growth is a pre-requisite for the achievement of other policy objectives (especially poverty alleviation). Government has a Constitutional obligation to provide basic services (water, electricity, health, education, etc.) to all citizens wherever they reside.
- Beyond the Constitutional obligation identified above, government spending on fixed investment should be focused on localities of economic growth and/or economic potential. This would enable it to leverage in private investment, to stimulate sustainable economic activities and to create long-term employment opportunities.
- One of the Provincial Targets set to ensure attainment of the provincial goals is to increase electricity supply from 83% in 2014 to 90% by 2020.
- Two of the prioritised Implementation Focus Areas are 1) Economic Development and Transformation and 2) Infrastructure Development.

This Eskom Rampheri-Thabamooop North Project forms part of the upgrade of various electrical networks in the Limpopo Province and is in support of above-mentioned goals.

(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
A Structure Plan for the Polokwane Local Municipality is not available / does not exist.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO	Please explain
<p>An EMF for the Polokwane Local Municipality as well as the Capricorn District Municipality is not available / does not exist.</p> <p>However, this study is being conducted according to the NEMA principles and the environment is protected through various mitigation measures as proposed in the Environmental Management Plan which forms part of this Basic Assessment Report.</p>			
(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
Unknown			

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<p>3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?</p>	YES	NO	Please explain
<p>The proposed project provides the area with a long term solution to accommodate the expected increase in electricity demand. The economic sector as well as local communities (distribution of electricity by the municipalities) will benefit from this project. The project will strengthen the electricity network; thereby ensuring less dips and power failures.</p>			
<p>4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)</p>	YES	NO	Please explain
<p>The proposed project will contribute to the provision of a long term solution to reliable electricity supply. The economic, private sectors as well as the environment will benefit from this project.</p>			
<p>5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES	NO	Please explain
<p>The project is for the distribution of existing available electricity and no additional capacity is required for this Eskom development.</p>			
<p>6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)</p>	YES	NO	Please explain
<p>Municipalities recognise the need for proper engineering infrastructure (e.g. electricity) in its area of jurisdiction and much needed infrastructure (e.g. electricity) is identified as a priority to unlock the economic growth potential of the macro area.</p>			
<p>7. Is this project part of a national programme to address an issue of national concern or importance?</p>	YES	NO	Please explain
<p>This project does ultimately contribute on national level. Eskom is the national electricity utility which generates and distributes electricity to industrial, mining, commercial, agricultural and residential electricity consumers and re-distributors.</p>			

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8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES	NO	Please explain
<p>All impacts can be mitigated to acceptable levels and this activity will not impact negatively on the current landuse along the route.</p>			
9. Is the development the best practicable environmental option for this land/site?	YES	NO	Please explain
<p>Negative impacts that this development may have on the environment can be mitigated to acceptable levels and the protection of the bio-physical environment is therefore not jeopardised. .</p>			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
<p>All negative impact associated with this proposed activity can be mitigated to acceptable levels. The positive impact of reliable and adequate electrical supply outweighs possible negative impacts that may occur after mitigation measures have been applied.</p>			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
<p>Existing electrical infrastructure such as power lines always has the potential for future upgrade and or construction of additional components to the facility and powerlines.</p>			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
<p>No person's rights would be affected by the proposed activity. A thorough public participation programme was conducted and issues raised by interested & affected parties are satisfactorily addressed.</p>			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
<p>The activity is irrelevant to the urban edge, because it is a linear activity which is required for service provision.</p>			
14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
15. What will the benefits be to society in general and to the local communities?	Please explain		
<p>The proposed project provides the area with a long term solution to accommodate the expected increase in electricity demand and it is anticipated that the network performance will improve and the duration and frequency of supply interruptions will therefore be minimal. The positive impact of reliable and adequate electrical supply outweighs possible negative impacts that may occur after mitigation measures have been applied.</p>			

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16. Any other need and desirability considerations related to the proposed activity?	Please explain
<p>An important consideration of the project is to ensure that the proposed solution to enhance the network does not have a negative impact on the environment. Mitigation measures as proposed in this report will ensure the protection of the environment.</p>	
17. How does the project fit into the National Development Plan for 2030?	Please explain
<p>The National Development Plan aims to eliminate poverty and reduce inequality by 2030. South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.</p> <p>The Commission's Diagnostic Report, June 2011 set out South Africa's achievements and shortcomings since 1994. It identified a failure to implement policies and an absence of broad partnerships as the main reasons for slow progress, and set out nine <i>primary challenges of which the following is relevant to this project</i>: "Infrastructure is poorly located, inadequate and under-maintained".</p> <p>Given the complexity of national development, the plan sets out six <i>interlinked priorities</i>. <i>Relevant to this project is bringing about faster economic growth</i>.</p> <p>The National Development Plan makes a firm commitment to achieving a minimum standard of living. <i>Elements of a decent standard of living include the following relevant to this project</i> :</p> <ul style="list-style-type: none"> • A more efficient and competitive infrastructure. • Infrastructure to facilitate economic activity that is conducive to growth and job creation. <p>An approach will be developed to <i>strengthen key services</i> such as commercial transport, energy, telecommunications and water, while ensuring their long-term affordability and sustainability.</p> <p>Economic infrastructure: The proportion of people with access to the electricity grid should rise to at least 90 percent by 2030, with non-grid options available for the rest.</p>	
18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.	
<p>Current procedures and/or organisational structures are not necessarily achieving integrated decision-making and/or co-operative governance and, as a result, there is a failure to properly achieve the objectives of IEM as set out in Section 23 of NEMA. EIA's however often focus on the immediate harm a project will cause rather than any benefits it might create in the long term to sustainable development.</p> <p>The stated objectives of Section 23 are to ensure integrated decision-making and co-operative governance so that NEMA's principles and the general objectives for integrated environmental management of activities can be achieved. The goals are to</p> <ol style="list-style-type: none"> a) promote the integration of the principles of environmental management set out in section 2 into the making of all decisions which may have a significant effect on the environment; b) identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage, the risks and consequences and alternatives and options for mitigation of activities, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management set out in section 2; 	

- c) ensure that the effects of activities on the environment receive adequate consideration before actions are taken in connection with them;
- d) ensure adequate and appropriate opportunity for public participation in decisions that may affect the environment;
- e) ensure the consideration of environmental attributes in management and decision-making which may have a significant effect on the environment; and
- f) identify and employ the modes of environmental management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management set out in section 2.

For this project the following actions were taken to reach the general objectives of Integrated Environmental Management as set out in Section 23 of NEMA:

- a) Applicable environmental, economic and social aspects have been assessed, thereby ensuring an integrated approach in order to balance the needs of all whom would be affected by this development.
- b) Impacts have been described and assessed elsewhere in this report. Mitigation measures have been supplied in order to ensure that all identified impacts are mitigated to acceptable levels. Alternatives have been thoroughly assessed and the best possible solution represents this development proposal.
- c) The development proposal has to be evaluated and approved by DEA and no construction may commence prior to the issuing of the Environmental Authorisation.
- d) The procedures which were followed during the public participation programme were based on the NEMA EIA Regulations which came into effect on 14 December 2015.
- e) DEA will take all information as represented in this report into consideration and may request further information should they feel that further studies/information is required before an informed decision can be made.
- f) The mitigation measures as supplied in this report together with the measures as per the Environmental Management Programme are deemed to be the best way to manage anticipated impacts.

By providing electricity whilst not impacting negatively on the environment, the project would contribute to a sustainable environment.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

Chapter 2 of NEMA provides a number of principles that decision-makers have to consider when making decisions that may affect the environment, therefore, when a Competent Authority considers granting or refusing environmental authorisation based on an Environmental Impact Assessment, these principles must be taken into account.

The NEMA principles with which this application conforms are described as follows —

1. Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.
2. Development must be socially, environmentally and economically sustainable.
3. Sustainable development requires the consideration of all relevant factors.

The social, economic and environmental impacts of activities, including disadvantages and benefits, were considered, assessed and evaluated, and informed decision-making by the authority is hereby made possible.

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11. 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	Applicability to the project	Administering authority	Date
National Environmental Management Act (Act 107 of 1998), as amended	Environmental Authorisation is required	Department of Environmental Affairs	BAR submitted for comment Oct 2016
National Heritage Resources Act (25 of 1999)	Comment is required	Heritage Western Cape	BAR submitted for comment Oct 2016
National Water Act (Act 36 of 1998)	Comment is required	Department of Water Affairs	BAR submitted for comment Oct 2016
Section 7(1) and 15(1) of the National Forests Act of 1998 (Act 84 of 1998)	Authorisation is not required	Department of Agriculture	
Environment Conservation Act (Act 73 of 1989)	Authorisation is not required	Department of Environmental Affairs	
National Environmental Management: Biodiversity Act (Act 10 of 2004)	Authorisation is not required	Department of Environmental Affairs	
National Environmental Management: Biodiversity Act (Act 10 of 2004): Threatened & Protected Species Regulations	Marula trees (<i>Sclerocarya birrea subsp. caffra</i>) were observed in the study area, but impact could be avoided. If not, the relevant permit application would be undertaken	Department of Environmental Affairs	
National Spatial Biodiversity Assessment (2004)	Authorisation is not required	Department of Environmental Affairs	
National Biodiversity Strategy Action Plan	Authorisation is not required	Department of Environmental Affairs	
Conservation of Agricultural Resources Act (43 of 1983)	Authorisation is not required	Department of Agriculture	
Endangered and Rare Species of Fauna and Flora (AN 1643 February 1984)	Authorisation is not required	Lists endangered species in terms of the Nature Conservation Ordinance, 1983 (Ordinance 12 of 1983)	

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?

If YES, what estimated quantity will be produced per month?

YES	NO
$\pm 15m^3$	

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

- Unusable waste will be disposed of at registered waste disposal sites according to the applicable waste classification.
- Hazardous construction waste will be disposed of at a H:H registered waste disposal facility.
- Steel (ferrous and non-ferrous) and aluminium will be recovered and sold as scrap for recycling.
- Refuse bags will be supplied to construction personnel for dumping of household waste. Bins with lids will be provided at construction camps for household waste.

For all waste that is disposed of, Eskom shall obtain waste manifests and disposal certificates, which shall be recorded and reported to the Environmental Control Officer (ECO) on a monthly basis.

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

- It will be transported off site by the contractor and returned to Eskom stores where scrap will be handed over to buyers. Any waste that cannot be recycled will be transported to appropriate registered waste disposal sites.
- General household waste generated by the construction team will be removed by the relevant contractor to a registered waste disposal site / municipal waste transfer station.
- The expected volumes of solid waste are small and does not require authorisation in terms of relevant legislation.

For all waste that is disposed of, Eskom shall obtain waste manifests and disposal certificates, which shall be recorded and reported to the ECO on a monthly basis.

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)?

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

Where will the solid waste be disposed of 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 NEM:WA?

YES	NO
-----	----

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	NO
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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. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	NO
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If YES, what estimated quantity will be produced per month?

	m ³
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Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	NO
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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:

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?

YES	NO
-----	----

If YES, is it controlled by any legislation of any sphere of government?

YES	NO
-----	----

If YES, the applicant must 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:

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?

YES	NO
-----	----

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) 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
-----	----

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Describe the noise in terms of type and level:

No permanent noise pollution will occur as a result of the proposed activity.

Limited noise will however occur as a result of construction activities during the construction phase. Eskom shall provide all necessary equipment with standard silencers and maintain silencer units on vehicles where required. Equipment must always be in good working order to minimise unnecessary noise levels.

Studies undertaken on behalf of Eskom confirmed that calculations of electric and magnetic field levels created by overhead powerlines / substations where the public may be exposed are well within the ICNIRP guidelines. Note that ICNIRP refers to Non-ionising Radiation Protection which receives world-wide support and is endorsed by the Department of Health in South Africa.

13. WATER USE

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

Municipal (Construction)	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water (Operation)
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If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

litres	
YES	NO

During the walk-down phase of this project, the aquatic specialist would ensure that all pylon placements where drainage lines are crossed are outside of the regulated areas. A WULA / GA is not required.

14. ENERGY EFFICIENCY

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

Not applicable

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

The activity is designed for the distribution of electricity. Energy is not being generated nor consumed by the activity, thus alternative energy has not been considered in this application.

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 B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. A):

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

Property description/physical address:

Province	Limpopo Province
District Municipality	Capricorn District Municipality
Local Municipality	Polokwane Local Municipality
Ward Number(s)	4, 7, 25, 26, 27, 28 and 31
Farm name and number	Please refer to Appendix A for a list of all the affected properties
Portion number	
SG Code	Please refer to Appendix A for a list of all the SG Digit Codes

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Agriculture, conservation well as urban zonings

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?

Eskom is an Organ of State and as such is exempt from rezoning and subdivision applications. However, landowner consent is required before Eskom can register a servitude for the distribution of electricity across the relevant properties. At this stage of the EIA process all landowners had been communicated with and concerns raised were satisfactorily addressed. As soon as Environmental Authorisation is obtained, the negotiator on behalf of Eskom will have option documents signed and he/she will appoint independent land valuers to determine the compensation amount relevant to each property. A negotiation process will then take place between Eskom and the landowners after which the servitudes will be registered on the relevant property deeds.

YES	NO
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1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

According to the **Biodiversity** Assessment (attached under Appendix D), the topography of the region and study area is predominantly that of moderately undulating plains with granite koppies (rocky outcrops) scattered throughout the landscape. Kloofs, ravines and valleys are scarce within the area, with the Strydpoort Mountain range to the south and various other mountains visible to north and east.

The region and the study area are relatively flat with granite koppies (rocky outcrops) scattered across the landscape. The height above sea level varies from about 1300m to 1100m, with an average of about 1200m. In general, the northern half of the study area slopes downwards in a northerly direction, while the southern half slopes downwards in a southerly direction. The gradient and slopes are steeper along the southern third of the study area.

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
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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
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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
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2. LOCATION IN LANDSCAPE

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

2.1 Ridgeline	<input type="checkbox"/>	2.4 Closed valley	<input type="checkbox"/>	2.7 Undulating plain / low hills	<input checked="" type="checkbox"/>
2.2 Plateau	<input type="checkbox"/>	2.5 Open valley	<input checked="" type="checkbox"/>	2.8 Dune	<input type="checkbox"/>
2.3 Side slope of hill/mountain	<input checked="" type="checkbox"/>	2.6 Plain	<input type="checkbox"/>	2.9 Seafront	<input type="checkbox"/>
2.10 At sea	<input type="checkbox"/>				

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

According to the **Biodiversity** Assessment (attached in Appendix D), the following applies:

Migmatites and gneisses of the Hout River Gneiss and the Turfloop Granite (both of Randian Erathem) are dominant in the region and study area. Some ultramafic and mafic metavolcanics, quartzite and chlorite schist of the Pietersburg Group (Swazian Erathem) are also found. These predominantly being the koppies scattered throughout the landscape. The soils tend to be variable, with freely drained soils with high base status, some dystrophic/mesotrophic and eutrophic plinthic catenas. Glenrosa and Mispah soil forms. Land types found in the area are mainly Ae, Bd, Ah, Ab, Bc and Fa (Mucina & Rutherford, 2006).

Erosion and donga formation is a bit of a problem, especially in the southern half of the study area where the topography at times can be steeper. The donga and surface erosion is linked to surface rainwater run-off near streams or steep ravines. These dongas / erosion lines in affect become drainage lines and as such need to be avoided were possible.

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

	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 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.

A Terrestrial Ecological Assessment, as part of the Biodiversity Assessment was undertaken by Setala Environmental. The Report is attached in Appendix D and is summarised below:

VEGETATION

South Africa is divided up into nine Biomes and the study area is situated within the Savanna Biome, which is also known as the Bushveld Biome. Savanna vegetation types tend to have a mix of a lower grassy layer and an upper woody layer, with the occurrence of a middle shrub layer. The mix and ratio of the three layers varies from veldtype to veldtype within the Savanna Biome.

Mucina & Rutherford (2006) have divided the Savanna Biome into six main bioregions, namely, Central Bushveld; Mopane; Lowveld; Sub-Escarpment Savanna; Eastern Kalahari Bushveld; and Kalahari Duneveld. The study area occurs within the Central Bushveld Bioregion.

The study area is situated within a single vegetation unit, known as Polokwane Plateau Bushveld. Areas of Mamabolo Mountain Bushveld occur in the mountainous areas to the south and east of the study area, but not within the proposed powerline servitudes themselves. The granite koppies scattered throughout the landscape and in the study area (1km corridor) are examples of Mamabolo Mountain Bushveld vegetation as well.

Priority Floral Species

No Red Data species (endangered, threatened or vulnerable) were observed during field investigations. According to the SANBI database a few Red Data species were recorded in the region of the QDS quadrants, but it is unlikely that any of these species are present in actual powerline servitudes. This however, is not to say for certain that none occur, as some may well occur in the rocky areas and on the granite koppies, such as the *Euphorbia* species. For these and other reasons the granite koppies are viewed as sensitive, 'no-go' areas.

Conservation status

The threatened status or conservation status of Polokwane Plateau Bushveld is *Least Threatened / Least Concerned*. The veldtype is not viewed as threatened. The study area is therefore not situated within a threatened ecosystem or veldtype unit.

Alien plants identified in the Study Area

There are a number of alien plants in the study area. The herbaceous plants are especially prevalent in disturbed areas and cultivated areas. Few alien tree species are present with species predominantly being of a herbaceous / herb nature.

Protected tree species identified in the study area

During field investigations marula trees (*Sclerocarya birrea subsp. caffra*) were observed in the study area. No other protected trees were observed within the powerline servitudes, but a few possibly occur within the 1km wide corridor.

A final walk-through will be required before the actual construction of the powerline begins, to ensure no protected trees are directly within the 8m servitude under the powerline itself, or within the position of pole (pylon) structures. Usually pole positions can be shifted slightly to avoid protected trees. However, in the case of the 8m wide servitude under the line, where trees and shrubs need to be removed and kept clear, it may not be possible to re-align the route to avoid any potential protected trees. In such as case a tree permit process will then be required. This requirement is included in the Environmental Management plan.

FAUNA

Due to the transformed nature of the study area the species richness will be low.

Mammals

No large- or medium-sized mammals were observed during field investigations, with the exception of some common bird species and a few signs of porcupine, field mice and mongoose. Medium- to large-mammals are not expected to occur regularly, although some might possibly move through the study area occasionally from the more inaccessible mountainous areas.

Reptiles

The study area is not within a snake hotspot, although it is highly possible that rock python (*Python natalensis*) could occur in the greater region. The study area is within a region of lizard hotspots. Lizards tend to prefer rocky habitats and it is more than likely that most lizards and priority species will occur in the granite koppies of the area and not so much on the open, grassy bushveld plains.

Invertebrates

Invertebrates such as spiders, scorpions and butterflies are important faunal groups, but are difficult to fully assess within a short time period. During field investigations specific attention was given to priority species such as *Mygalomorphae arachnids* (Trapdoor and Baboon spiders) and red data butterflies. Fortunately, the nature and scope of the project is such that it will have very little negative impact, if any, on these species. No priority species were observed.

The study area is situated within known butterfly hotspots, although the central regions of these hotspots are the mountainous areas outside of the actual 1km corridor to the south and east of the study area. The main butterfly hotspot in Limpopo for Red Data species is the Wolkberg, Makapan and Strydpoort Mountains.

Faunal species of conservation concern

The general habitats present within the 1km corridor are for the most part not ideal habitats for most potentially occurring Red Data faunal species. However, due to some ideal, nearby habitats care should be taken to avoid impacting on any animals, nests, borrows, etc. encountered, especially during the construction phase of the project.

SENSITIVITY ASSESSMENT

The sensitivity assessment identifies those areas and habitats within the study site that have a high conservation value and that may be sensitive to disturbance. Areas or habitats have a higher conservation value (or sensitivity) based on their threatened ecosystem status, ideal habitat for priority species (including Red Data species), species-richness, distinctive habitats, etc.

The natural environment is fairly uniform and consists of three distinctive natural habitats, namely open bushveld, granite koppies and watercourses. The watercourses are similar to one another in nature. Most of the natural habitat along the route has been moderately modified to totally transformed, primarily as a result of cultivation and urbanisation. Such areas are not viewed as sensitive at all. Pristine bushveld areas would be viewed in this area as sensitive, but none occur, with the exception of the granite koppies, although not totally pristine.

Ecological Sensitivity Analysis

The ecological sensitivity is determined by combining the sensitivity analyses of both the floral and faunal components.

Ecological community	Floristic sensitivity	Faunal sensitivity	Ecological sensitivity	Development Go-ahead
Bushveld	Medium	Medium	Medium	Go-But
Cultivated lands & Urban areas	Low	Medium/Low	Medium/Low	Go-Slow
Granite Koppies	Medium/High	High	High	No-Go
Watercourses	Medium	Medium/High	Medium/High	Go-But

According to the analyses the granite koppies (rocky outcrops) are High sensitivity areas / habitats and need to be viewed as 'No-Go' areas in terms of the project development.

Priority areas

The power line route is predominantly outside of any priority areas and none of the substations or CNCs is within any priority areas. A small section of the route in the north runs adjacent to the Turfloop Nature Reserve.

SENSITIVE AREAS

Three areas were identified as sensitive, besides the granite koppies. The three areas are related to watercourses and associated erosion areas and a nature reserve area. The areas have been delineated and marked in the maps below. A final walk-through is important for these areas to make sure pylon positions are correct. It is also possible to realign powerline servitudes within these areas. The areas are, however, not 'No-Go' areas.

Sensitive Area 1 includes a formal nature reserve area where protected trees such as marulas are more than likely to occur. Please note however that the power line runs adjacent to the Reserve's border and entry into the Reserve is not required.

Sensitive Area 2 is within an area where there is a lot of erosion close to and along a small stream. In this area caution needs to be taken to avoid impacting on the watercourse as well as increasing erosion potential. Proper spacing of powerline pylons in this area is not prohibited, but is essential to be done right.

Sensitive Area 3 is also within a watercourse area and an area of high erosion. A manmade impoundment is also within this area. Once again, final alignment of the powerline and pylons is crucial here, although not prohibited.

Ecological & Freshwater Sensitivity Map



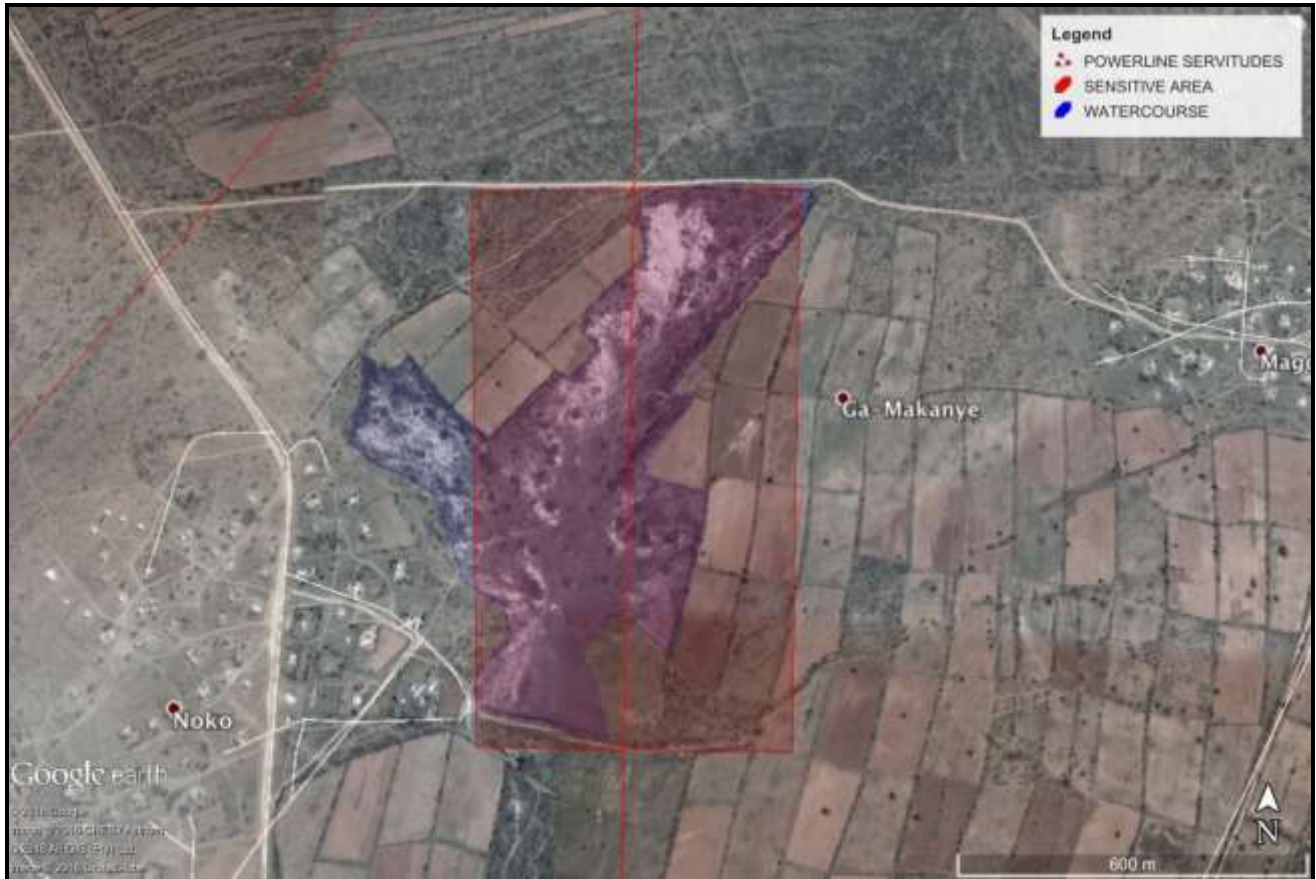
Sensitive Area 1



Sensitive Area 2



Sensitive Area 3



IMPACT ASSESSMENT

Power line section from the Syferkuil Substation to the Thabampo North Substation

Before mitigation: MEDIUM negative

After mitigation: LOW negative

Syferkuil Substation & CNC as well as Unin Sustation

Before mitigation: MEDIUM negative

After mitigation: LOW negative

Rampheri Substation & CNC

Before mitigation: MEDIUM negative

After mitigation: MEDIUM negative

Impact of the power line on Bushveld

Before mitigation: MEDIUM negative

After mitigation: LOW negative

General impacts of the project in the study area

Besides the direct impacts of the project, a number of other general impacts can occur during the construction phase that needs to be taken into account. The significances of these are highlighted in the table below.

Issue	Significance rating before and after mitigation	
	Before	After
Farming Related & Other Issues		
Access to properties	Low	Low
Access roads (damage, blocking)	Low	Low
Loss of agricultural potential	Low	Low
Loss of cultivation potential	Low	Low
Loss of grazing potential	Low	Low
Impact on airstrips	Low	Low
Impacts on seasonal activities	Low	Low
Natural Environment		
Erosion	Low	Low
Impact on flora	Low	Low
Impact on fauna	Low	Low
Importation of alien vegetation	Low	Low
Impact of herbicides	Low	Low
Impact on conservation areas	Low	Low

MITIGATION

The mitigation measures mentioned below are included in the Environmental Management Plan.

Construction Phase

- No temporary facilities or storage of materials within any pristine bushveld or other open veld areas.
- No indigenous trees to be removed if not entirely necessary.
- Certified toilets and drinking water tanks to be used only and by a certified contractor only.
- Proper rubbish/waste bins to be provided. These to be emptied weekly and the waste to be removed to an official waste disposal site.
- Litter and general rubbish to be removed weekly to a certified landfill site only and by a certified contractor only.
- No soil stockpiles to be left after construction.
- Proper Eskom procedures to be in place to deal with oil spills, etc.
- All leftover materials to be totally removed after construction phase. Special attention must be given to removing all cables, wires and material wrappings.
- Temporary access roads to construction site to be kept to an absolute minimum. Where possible existing roads to be used. Roads to be continually maintained during construction phase and immediately on completion of sites. Water trucks to be used daily for dust suppression along gravel / sand access roads.
- Syferkuil – Thabamoopo North line: where possible, position powerline within the existing servitude.

- Ensure no concrete, or soil stockpiles are left behind after construction phase.
- Ensure litter and used material such as wires are cleaned up and removed on a daily basis.
- Concrete may not be mix on open, bare ground / soil.
- Stormwater Management Plan to be compiled and implemented.
- Soil stockpiles to be placed only within transformed or totally disturbed areas. No trees to be removed to make place for soil stockpiles.
- All areas outside of the substation and CNC sites disturbed or used during construction phase to be properly and completely rehabilitated as part of the construction phase.
- Dust suppression to be implemented during construction phase.
- Open veld areas used during construction that have become denuded of grass due to construction activities to be rehabilitated and re-grassed. Either by hydro-seeding or by planting of grass sods. (Recommended grass mixes can be found in the addendum of the Biodiversity Report as attached in Appendix D).
- Any damage or removed trees in temporary storage and accommodation areas to be replaced.
- No temporary accommodation or storage facilities may be setup within 100m of any river, stream, drainage line, wetland or farm dam.
- No temporary accommodation or storage facilities may be setup within 500m of the outer boundary of any wetland area.
- No temporary facilities (including portable toilets) to be positioned within a 50m bufferzone of the edge of any watercourses.
- Only existing roads to be used by vehicles during construction as far as possible. Especially in terms of crossing over watercourses.
- No vehicles may drive through watercourses and no new service road may be made through wetland areas.
- Upgrade activities close to watercourses to be carefully monitored in terms of erosion and possible resulting siltation of watercourses. Weekly inspection of work areas around watercourses to be conducted. Any signs of new erosion and siltation to be rectified immediately.
- Disturbed surface areas in the construction phase to be rehabilitated. No open trenches to be left. No mounds of soils created during construction to be left.
- All construction material, equipment and any foreign objects brought into the area by contractors to be removed immediately after completion of the construction phase.
- Granite koppies to be totally avoided.

Maintenance phase

- Mechanical control of alien plants around disturbed areas caused by construction need to be implemented within three months of completion of construction. Thereafter every six months. Mechanical control to be of such a nature as to allow local, indigenous grasses and other pioneers to colonise the previously disturbed areas, thereby assisting in keeping out invasive weed species.
- No chemical control (herbicides) of alien plants to be used within 100m of any watercourses.
- Areas around foundations of poles (pylons) need to be check before and after the summer rainy season for signs of soil erosion due to stormwater run-off. Such sites need to be modified and rehabilitated to prevent ongoing erosion. These sites need to be monitored more closely than other sites which show no or minimal signs of erosion.
- Proper stormwater management plans for the substations and CNCs need to be compiled and implemented.

SELECTING AN ALTERNATIVE

Line variant recommendations are made on the strength and combination of all the impacts and mitigating actions, as well as on the sensitivities of the various biophysical features, faunal habitats and vegetation types that each proposed route alternative impacts on. A comparison between the three alternative routes as to the number of ecologically sensitive units each one potentially impacts on, is shown below.

Ecological Sensitive Units	Preferred Route	Route Alternative 1	Route Alternative 2
Areas of High ecological sensitivity	1	1	1
No-Go areas in close proximity	0	0	0
No. of river & stream crossings	1	2	0
No. of major drainage line crossings	3	3	4
Rocky outcrops in corridor	0	0	3
Ridges in corridor	0	0	0
Major Wetlands encountered	0	0	0
Total impacts per route	5	6	8

Route Alternatives 1 & 2 have more sensitive areas that they impact on compared to the Preferred Route Alternative. Route Alternative 2 also tends to impact more and come closer to more granite koppies, which are seen as very sensitive. Route Alternative 2 also tends to run through more, natural bushveld thereby potentially causing greater impact on the natural environment than the other two alternatives.

Taking all of the above issues into account, the Ecological recommended line variant for the proposed project is the Preferred Route Alternative.

CONCLUSION

Impact that this project may have on the fauna & flora of the area can be mitigated to acceptable levels if mitigation measures are followed and the Preferred Route Alternative is used.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

An **Aquatic Ecology Assessment** was undertaken as part of the Biodiversity Assessment by Sitala Environmental and is attached in Appendix D. A summary thereof is provided below.

The aquatic ecology focuses on the open waterbodies within the study area. The focus is to delineate watercourses and limit any impact the project might have on these watercourses.

Wetlands

During the site investigations the following indicators were used to determine whether an area needed to be defined as a wetland or not, namely:

- Terrain unit indicator;
- Soil form indicator;
- Soil wetness indicator; and
- Vegetation indicator.

There are no wetlands in the study area.

Riparian zones

Riparian vegetation is typically zonal vegetation closely associated with the course of a river or stream and found in the alluvial soils of the floodplain.

Rivers, streams and drainage lines

The main perennial and/or large rivers of the region are not within the study area. The Diep River is approximately 7,5km due west of Sykerkuil Substation, while the Turfloop River is approximately 1 km northwest from the study at its closest point. The Mphogodima River is about 2,5km east of the study area and the Thlabasane about 3,8km south of the Rampheri Substation and CNC sites.

A main tributary of the Turfloop River is within the northern section of the study area. In the southern section of the study area is a tributary of the Thlabasane River. Both these tributaries are unnamed on maps and are semi-perennial streams.

Besides the two main tributaries mentioned above, there are still a few small drainage lines in the study area. These are seasonal in nature and tend to flow for a few days only after good rainfalls.

Erosion and donga formation is a problematic, especially in the southern half of the study area where the topography at times can be steeper. The donga and surface erosion is linked to surface rainwater run-off near streams or steep ravines. These dongas / erosion lines in affect become drainage lines and as such need to be avoided where possible.

Major rivers within the wider study area



Delineated Watercourses

The watercourses within the study area where the proposed powerline routes may potentially impact on have been delineated and need to be avoided. The Substations and CNCs are not near any watercourses.

There is donga formation and shallow, surface erosion areas that preferably need to be avoided. To simplify matters these areas have been delineated along with the associated watercourses. In affect, these erosion gullies (dongas) have become drainage lines that become active during heavy rain downpours and as such are better to be avoided.

There are three main areas where the powerline servitude potentially impacts on, or comes close to, watercourses and erosion areas. These areas have been marked as sensitive, but are not 'no-go' zones. However, **it is strongly recommended that a final walk-through be conducted prior to the start of construction just to help fine-tune the positioning of pylons as to avoid dongas, drainage lines, etc.** This will also assist in avoiding triggering the need for a WULA process.

PES of watercourses in the study area

All of the watercourses identified during field investigations in the study area were assessed. The small streams and drainage lines are in reality and functionality the same and have therefore been assessed as a group. The assessment criteria and structure is based on the modified Habitat Integrity approach of Kleynhans (1996, 1999). The PES is calculated by looking at the hydrology, geomorphology, water quality and biota of each watercourse. Of importance is the overall PES of the system.

All of the streams and drainage lines basically identical in terms of their PES ratings. All have been calculated to be Category D (Largely Modified). Ideally, one would want the watercourses in the area to be managed and improved to a PES of at least Category C. However, this falls outside of the responsibilities of Eskom or the sub-contractors, except in terms of limiting further impacts on these watercourses during the construction phase of the project.

Ecological importance and sensitivity (EIS)

The ecological sensitivity (ES) part of the EIS looks at how sensitive the system is to changes in services and environmental conditions.

The EIS ratings of the two main tributaries of the Turfloop and the Thlabasane Rivers, are deemed to be high because they are important catchments servicing rivers in the region that many rural villages rely on for drinking and irrigation purposes. Furthermore, these waterways help sustain larger downstream rivers that are important for faunal breeding species such as waterbirds and migratory birds.

Their importance is heightened by the fact that the natural environment and all watercourses in the region are under severe pressure due to over-utilisation and increasing urbanisation. The drainage lines, although still important, contribute less to the general fauna and flora of the region, as well as to the catchment's discharge into larger rivers. These are some of the reasons that their EIS is calculated to be Category C (Moderate).

Drivers of ecological change on the watercourses

Although powerlines generally have a small impact on watercourses, especially in terms of impeding and/or diverting waterflow, their potential impact in the study area is not a major driver of ecological change.

Sensitivity Assessment

The sensitivity assessment identifies those areas and habitats that have a high conservation value and that may be sensitive to disturbance. All watercourses, including seasonal streams and drainage lines are always deemed to be sensitive, even if they are badly degraded.

The natural environment is fairly uniform and consists of three distinctive natural habitats, namely open bushveld, granite koppies and watercourses. The watercourses are similar to one another in nature. Most of the natural habitat along the route been moderately modified to totally transformed, primarily as a result of cultivation and urbanisation.

	Watercourses
Red Data Species	4
Habitat Sensitivity	6
Floristic Status	6
Floristic Diversity	5
Ecological Fragmentation	8
Sensitivity Index	58%
Sensitivity Level	Medium
Development Go Ahead	Go-But

Watercourses were calculated to be of Medium/High sensitivity in terms of the actual ecological component. However, all watercourses must be viewed and approached as sensitive and preferably as 'No-Go' zones in terms of project development. Fortunately no approved or proposed substations or CNCs impact on any watercourses. However, actual powerlines will need to cross over some drainage lines. Pre-construction planning needs to be such that pylons are not within watercourses. If not, the need for a Water Use Licence Application (WULA) will be triggered.

Sensitive Areas

Refer to the maps and description of the sensitive areas as provided above in the summary of the Terrestrial Ecological Assessment (Section B, Paragraph 4).

Priority Areas

The study area is predominantly outside of any priority areas. None of the substations or CNCs are within any priority areas. In the middle of Route Alternative 1 the power line crosses over a NFEPA 'wetland area', which is actually a farm dam. In the extreme south, east of the Rampheri Substation and CNC area is a watercourse area within the 1km corridor of the study area.

The watercourse area east of Rampheri is not problematic and can easily be avoided. The farm dam in about the middle of the corridor can be avoided by following the Preferred Route or by realigning Alternative 1 only slightly.

IMPACT ASSESSMENT

Please note that mitigation measures below are also included in the Environmental Management Plan.

Impact of the power line on Watercourses

Before mitigation: MEDIUM negative

After mitigation: LOW negative

Mitigation

- A walk-down exercise must be undertaken in the final design phases of the project development in order to determine the final pylon positions. Pylons must be placed in such a manner that no pylons will be within 32m from the banks of any watercourse. Correct pole placement will also ensure that a Water Use Licence Application / General Authorisation from the Department of Water & Sanitation are not required.
- No temporary facilities to be erected within 100m of any watercourse.
- Only existing roads and tracks to be used to cross a watercourse.
- Attention must be given to avoid erosion around riverbanks.
- Attention must be given to avoid siltation from upgrade activities in the area of watercourses.
- Proper permits and/or authorisation must be obtained if water is to be used from out of any watercourses in the area.
- No pylons to be erected within 50m buffer of the edge of a stream or riverbank.
- No pylons to be erected within the stream channel of a watercourse.
- No pylons to be erected or positioned within the riparian zone of any watercourse.

Selecting an alternative

Line variant recommendations are made on the strength and combination of all the impacts and mitigating actions, as well as on the sensitivities of the various biophysical features, faunal habitats and vegetation types that each proposed route alternative impacts on.

Ecological Sensitive Units	Preferred Route	Route Alternative 1	Route Alternative 2
Areas of High ecological sensitivity	1	1	1
No-Go areas in close proximity	0	0	0
No. of river & stream crossings	1	2	0
No. of major drainage line crossings	3	3	4
Rocky outcrops in corridor	0	0	3
Ridges in corridor	0	0	0
Major Wetlands encountered	0	0	0
Total impacts per route	5	6	8

Taking all factors into account, the Ecological recommended line variant for the proposed project is the Preferred Route Alternative.

CONCLUSION

Impact that his project may have on the watercourses of the area can all be mitigation to acceptable levels if the Preferred Route Alternative is being used.

BASIC ASSESSMENT REPORT

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that 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:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station ^H
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential ^A	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant ^A	Nature conservation area
Medium industrial ^{AN}	Train station or shunting yard ^N	Mountain, koppie or ridge
Heavy industrial ^{AN}	Railway line ^N	Museum
Power station	Major road (4 lanes or more) ^N	Historical building
Office/consulting room	Airport ^N	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam ^A	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	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? Specify and explain:

Not applicable

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

Not applicable

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

The powerline will not affect the filling station.

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO
Buffer area of the SKA?	YES	NO

BASIC ASSESSMENT REPORT

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

The following SANBI maps are attached in Appendix A:

- Limpopo Conservation Plan (Critical Biodiversity Areas and Ecological Support Areas)
- Terrestrial Ecosystem Threat Status
- National Protected Areas
- Wetlands and Rivers

7. 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 paleontological sites, on or close (within 20m) to the site? If YES, explain:

YES	NO
Uncertain	

- Burial Ground at Mothapo had been identified. Alternative Route 1 passes immediately north of the cemetery at Mothapo through a gap with hills.
- A colony of giant aloes identified as *Aloe excelsa* is located in the 1km wide corridor of the Preferred Route. Aloes have medicinal value and as such are culturally important and must be protected.

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

A Heritage Impact Assessment and Paleontological Survey were undertaken by Ecorite Consultants and is attached in Appendix D. A summary thereof follows below:

SUMMARY OF FINDINGS

Burial Ground at Mothapo

Burial grounds are sacred reservations. Alternative Route 1 passes immediately north of the cemetery at Mothapo through a gap with hills. This makes this route less suitable for reasons of proximity to the graves if other less difficult options exist.

Protection of Aloes

A colony of giant aloes identified as *Aloe excelsa* is located in the 1km wide corridor of the Preferred Route. Aloes have proven herbal properties and they are applied for a wide range of human ailments. They are also used for treating sick chickens. As such they are culturally important and must be protected. Erecting overhead power lines over a colony of aloes cannot be regarded as inappropriate provided that the individual plants affected by pylon footings are transplanted.

Confirmation of the Preferred Route

This scoping survey confirms suitability of the Preferred Route subject to precautions taken about the aloes. If heritage resources were to be found during the construction phase, it is standard procedure that the relevant heritage authorities, SAHRA and LIHRA, will be notified immediately and a heritage expert called to attend.



Yellow peg – intensive ground surveys conducted, no heritage resources found
 Red pegs – heritage resources found

Recommendations and Conclusions

- Alternative Route 1 passes close to the cemetery at Mothapo where a buffer of at least 100m would be required. This makes it less suitable if other less difficult options exist.
- The colony of giant aloes (*Aloe excelsa*) within the Preferred Route corridor must be protected. However erecting overhead power lines over a colony of aloes cannot be regarded as inappropriate; individual plants affected by pylon footings should be transplanted.
- This study confirms suitability of the Preferred Route subject to precautions taken to protect aloes colonies. As a standard requirement if heritage resources were to be found during the construction phase, the relevant heritage authorities i.e. SAHRA and/or LIHRA, will be notified immediately and a heritage expert called to attend.
- No historically significant sites that are protected in terms of the National Heritage Resources Act 25 of 1999 will be affected by the proposed project.
- In conclusion it is recommended that if unmarked human burials are discovered during the powerline development, they should be relocated to a formal graveyard. The removal must be conducted with due respect for the customs and beliefs of the affected community/ relatives.

Will any building or structure older than 60 years be affected in any way?
 Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?
 If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

YES	NO
YES	NO

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

The following information was obtained from the **City of Polokwane Integrated Development Plan, Review for 2016 - 2021**.

Level of unemployment:

Employment Status	Number
Employed	155 691
Unemployed	74 784
Discouraged Work Seeker	14 798
Not Economically Active	16 2442

Economic profile of local municipality:

Economic Drivers

The municipality has the Polokwane International Airport where various commercial flights enter and exit the town of Polokwane. There are three major malls in the municipality with Mall of the North being the latest and the biggest with 180 retail shops. Peter Mokaba Stadium is one of the stadia that was built in preparation for the 2010 FIFA World Cup Tournament which brings PSL soccer matches to Limpopo frequently. With one soccer team called Polokwane City having been promoted to the PSL, the stadium would be expected to have more soccer matches in the next season and that would contribute a lot to the economic growth of the municipality.

There are many churches in the municipality with ZCC that bring large number of followers of the church at least once per year. The church attracts people from all the nine provinces of South Africa and neighbouring countries such as Swaziland, Zimbabwe and Botswana. During Easter holidays small businesses and the self-employed are able to make bigger profits as the church welcomes over 10 million followers to Moria.

Polokwane is the dominant municipal economy in the Capricorn district with a total of 63% contribution into the Capricorn District's GDP. It is also the largest municipal economy within Limpopo Province, contributing more than 10% to the provincial GDP.

Employment per sector

<i>Sectors</i>	<i>Total</i>
Agriculture	8,710
Mining	2,552
Manufacturing	9,627
Electricity	1,078
Construction	6,956
Trade	28,941
Transport	4,110
Finance	20,349
Community service	37,730

BASIC ASSESSMENT REPORT

Level of education:

Group	Percentage
No Schooling	1,9%
Some Primary	38%
Completed Primary	5,8%
Some Secondary	33,7%
Completed Secondary	14%
Higher Education	3,6%
Not Applicable	3,1%

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	Unknown	
What is the expected yearly income that will be generated by or as a result of the activity?	Unknown	
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 and construction phase of the activity/ies?	*Minimal	
What is the expected value of the employment opportunities during the development and construction phase?	Unknown	
What percentage of this will accrue to previously disadvantaged individuals?	Unknown	
How many permanent new employment opportunities will be created during the operational phase of the activity?	None	
What is the expected current value of the employment opportunities during the first 10 years?	Unknown	
What percentage of this will accrue to previously disadvantaged individuals?	Unknown	

* The proposed project involves the experience and expertise of highly skilled labour. All of Eskom's policies encourage the use of local labour where possible. Minimal additional employment opportunity will be available during the construction phase. During the operational phase no additional employment opportunities exist – the project will, however, secure employment for existing Eskom employees.

9. BIODIVERSITY

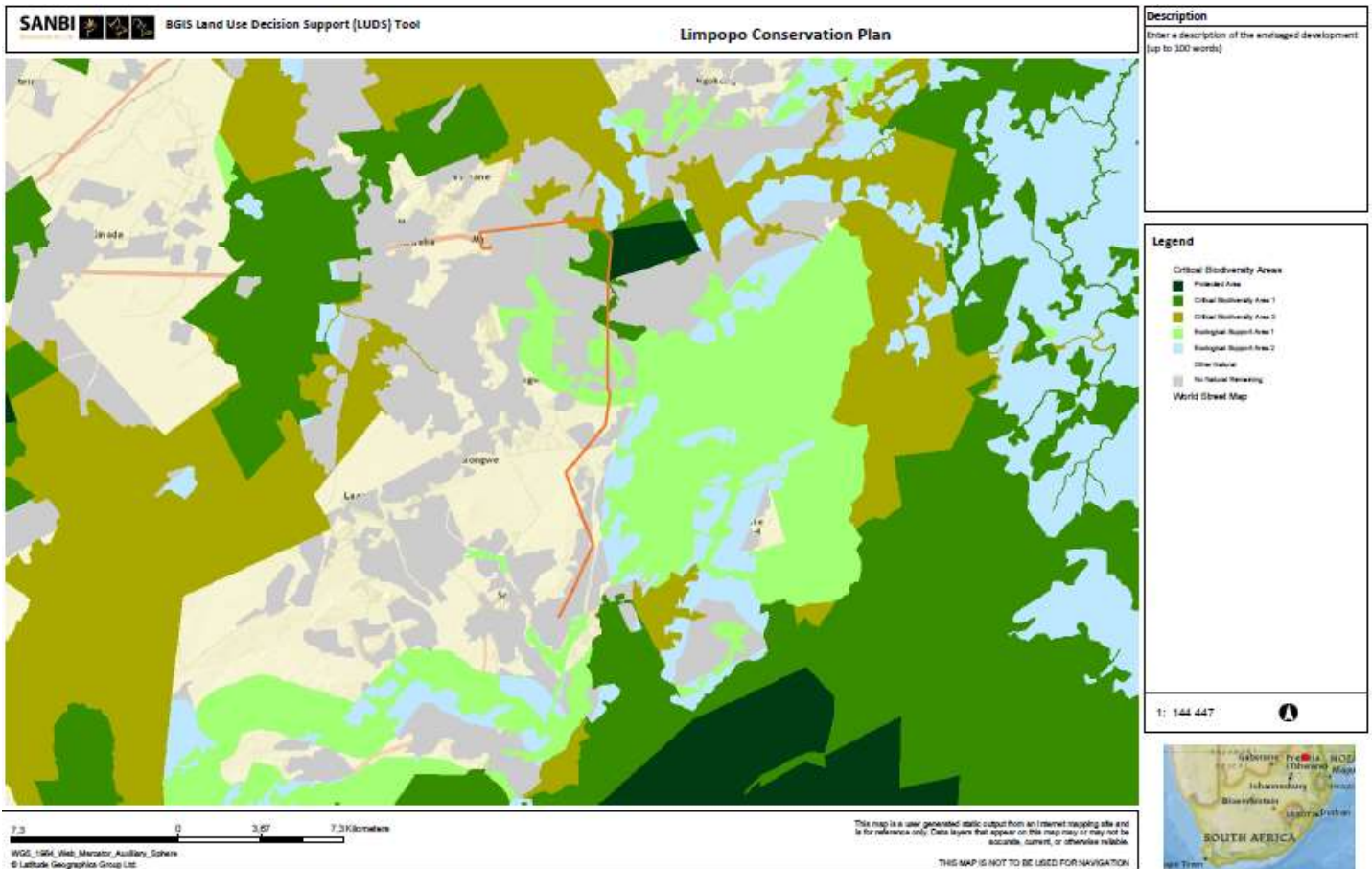
Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult <http://bgis.sanbi.org> or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) **Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)**

BASIC ASSESSMENT REPORT

Systematic Biodiversity Planning Category				If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	<p>Critical Biodiversity Areas are regarded as essential areas for the achievement of regional conservation targets, and are designed to ensure minimum land take for maximum result, and Ecological Support Areas (ESAs) are less critical areas that still provide valuable habitat and support the CBAs.</p> <p>A very small section of the northern part of the route crosses a CBA Type 1 and CBA Type 2 as well as an ESA Type 1. The Preferred Route Alternative runs along the border of the Turfloop Nature Reserve. Note that entry into the Reserve is not needed.</p>

Limpopo Conservation Plan



BASIC ASSESSMENT REPORT

b) Indicate and describe the habitat condition on site

Habitat Condition	Percentage of habitat condition class (adding up to 100%)	Description and additional Comments and Observations (including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).
Natural		Please refer to the Terrestrial Ecological Assessment , undertaken as part of the Biodiversity Assessment and summarised above under Section B, Paragraph 4 (the full report is attached in Appendix B).
Near Natural (includes areas with low to moderate level of alien invasive plants)		
Degraded (includes areas heavily invaded by alien plants)		
Transformed (includes cultivation, dams, urban, plantation, roads, etc)		

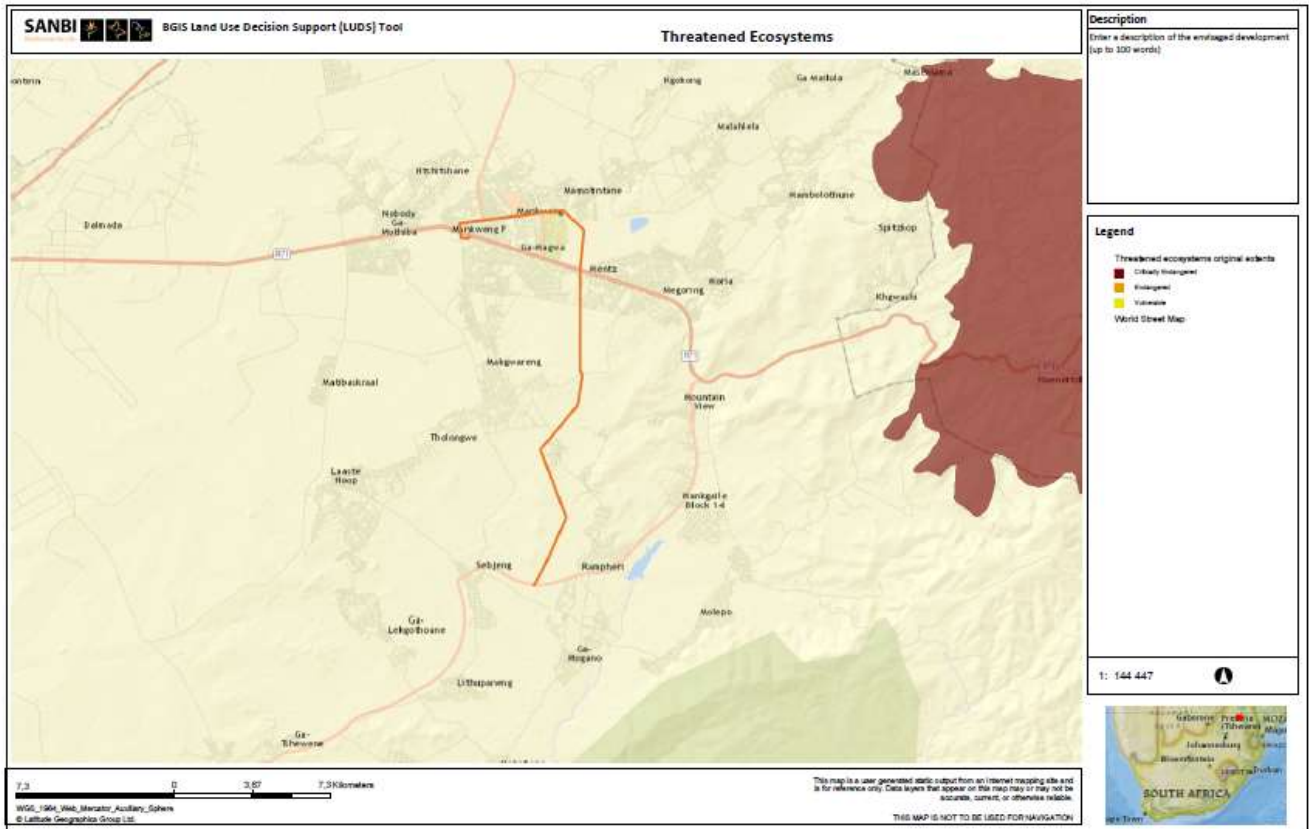
c) Complete the table to indicate:

- (i) the type of vegetation, including its ecosystem status, present on the site; and
- (ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		Aquatic Ecosystems						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened							
		YES	NO	UNSURE	YES	NO	YES	NO

According to the SANBI map below (and also attached in Appendix A), the power line route will not cross any Threatened, Endangered or Vulnerable ecosystems.

BASIC ASSESSMENT REPORT



- d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

A **Terrestrial Ecological Assessment**, as part of the Biodiversity Assessment was undertaken by Setala Environmental and is attached in Appendix D. A summary thereof is provided above under Section B, Paragraph 4.

An **Aquatic Impact Assessment**, as part of the Biodiversity Assessment was undertaken by Setala Environmental and is attached in Appendix D. A summary thereof is provided above under Section B, Paragraph 5.

A **Bird Impact Assessment** was undertaken by Chris van Rooyen Consulting and is attached in Appendix D. A summary thereof is provided below.

Important Bird Areas

The study area does not overlap with any Important Bird Areas (IBAs). The closest IBA is the Wolkberg Forest Belt IBA (SA SA005) which is located 4km to the east of the proposed Rampheri substation (Marnewick et al. 2015). Although this IBA is located within close proximity (in bird terms – particularly for wide ranging species) to the study area, the proposed development should not have any direct impact on the Wolkberg Forest Belt IBA or the species that this area supports.

Primary vegetation divisions (biomes)

The study area extends over a single primary vegetation division, namely savanna (woodland) (Mucina & Rutherford 2006).

Bird habitat classes

The following bird habitat classes were recorded in the study:

Savanna

The study area is situated in the savanna biome and the natural woodland consists of mainly of Polokwane Plateau Bushveld. The natural woodland in the study area has been disturbed. Evidence of bush clearing and removal of trees is clearly visible in some areas, and evidence of grazing pressure is evident in the depleted state of the grass layer and dense bush encroachment in places, especially in the immediate vicinity of towns and settlements. Large sections of the study area have been completely transformed by human settlement. Very little undisturbed woodland remains, but a few relic patches of good quality woodland exist in some areas, particularly on koppies. The woodland areas are utilised for live-stock grazing.

Rivers

The study area does not contain any major rivers, only a few ephemeral drainage lines, of which the Pourivier in the north-east is the largest.

Dams

Whilst dams have altered flow patterns of streams and rivers, and affected many bird species detrimentally, a number of species have benefited from their construction. The construction of these dams has probably resulted in a range expansion for many water bird species that were formerly restricted to areas of higher rainfall. Man-made impoundments, although artificial in nature, can be very important for a variety of birds, particularly water birds. A couple of small to medium sized dams were observed are located in the study areas.

Agricultural clearings and old lands

The tilling of soil is one of the most drastic and irrevocable transformations brought on the environment. It completely destroys the structure and species composition of the natural vegetation, either temporarily or permanently. However, arable or cultivated land may represent a significant feeding area for many bird species in any landscape. Agricultural fields and old clearings are common throughout the study area.

Mountains and koppies

The Wolkberg Mountains are located just outside the study area, to the south and east. The Wolkberg Mountains provides foraging, roosting and breeding habitat to a number of Red Data species, including the Red Data Southern Bald Ibis, Martial Eagle and the nationally Vulnerable African Crowned Eagle *Stephanoaetus coronatus*. While it is unlikely that the latter two Red Data species would be regularly attracted to the study area, given the highly disturbed state of the natural habitat, occasional forays into the study area by Martial Eagle and Southern Bald Ibis may well happen.

There are several koppies in the study area. The koppies are potentially suitable roosting and breeding habitat for the Red Data Lanner Falcon. Lanner Falcon could also be attracted to poultry in the settlements.

Power line sensitive species occurring in the study area

A total of fifteen Red Data species could potentially occur in the study area.

DESCRIPTION OF EXPECTED IMPACTS

Impact 1 Electrocutions

Electrocution refers to the scenario where a bird is perched or attempts to perch on the electrical structure and causes an electrical short circuit by physically bridging the air gap between live components and/or live and earthed components. The electrocution risk is largely determined by the pole/tower design. The tower design that has been proposed for this project is the steel monopole.

Clearance between phases on the same side of the 132kV pole structure is approximately 2.2m for this type of design, and the clearance on strain structures is 1.8m. The length of the stand-off insulators is approximately 1.6m. This clearance should be sufficient to reduce the risk of phase – phase electrocutions of birds on the towers to negligible for all species except vultures. If vultures attempt to perch on the stand-off insulators, they are potentially 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 attempts to sit on the same pole, which may happen with vultures. Vultures are unlikely to occur regularly within the study area, but sporadic occurrence cannot be ruled out. The closest Cape Vulture colony (Moletje) is approximately 40km away, and the closest vulture restaurant (Polokwane Nature Reserve) is about 25km away. The average foraging radius for Cape Vultures around colonies is approximately 40km, but birds may on occasion forage far wider. The only envisaged high risk scenario would be when a carcass becomes available within a few hundred metres of the line, attracting White-backed Vultures and Cape Vultures which may cluster on a few poles. This is likely to be an irregular event in the study area.

In summary it is concluded that the risk of electrocution posed to avifauna by the steel monopole design is likely to be LOW and restricted to vultures, but it cannot be ruled out entirely.

Electrocutions in the proposed Syferkuil and Unin substation yards are possible, but should not affect the more sensitive Red Data bird species as these species are unlikely to use the infrastructure within the substation yards for perching or roosting, given the location of the proposed substations being in a densely populated urban area. The highly disturbed woodland at the Rampheri Substation is also unlikely to attract Red Data species on a regular basis.

The risk of electrocution within the substation yards is evaluated to be LOW.

Impact 2 Collisions

Collisions are probably the biggest single threat posed by transmission lines to birds in southern Africa. Most heavily impacted upon are bustards, storks, cranes and various species of waterbirds. These species are mostly heavy-bodied birds with limited manoeuvrability, which makes it difficult for them to take the necessary evasive action to avoid colliding with power lines

In the present instance, potential candidates for collision mortality in the woodland habitat on the proposed power line are White-bellied Korhaan, Lanner Falcon, Secretarybird, Cape Vulture, White-backed Vulture, Marabou Stork, Abdim's Stork and Martial Eagle. Collisions are likely to be few and far between, as there are no specific areas where one would expect a concentration of birds in the remaining woodland habitat. Vultures would be most at risk of collision if they descend to a carcass near the line. This is not likely to be a regular event, given the fact that the occurrence of vultures is likely to be the exception rather than the rule.

Abdim's Stork will be at risk in agricultural clearings, especially on freshly ploughed fields. White-bellied Korhaan, Secretarybird and Southern Bald Ibis could also forage in old agricultural clearings, where they might be exposed to collision risk.

There is a potential collision risk associated with ephemeral drainage lines where it is expected that waterbirds could commute up and down the drainage line when it is flowing or when it contains large pools of standing water. However, there are relatively few ephemeral drainage lines and dams in the study area, therefore the risk is likely to be limited.

The risk of collision posed to Red Data avifauna by the proposed power line is likely to be of MEDIUM significance. With mitigation, this risk could be reduced to LOW.

Impact 3: Displacement due to habitat destruction and disturbance

During the construction phase and maintenance of power lines and associated infrastructure, some habitat destruction and transformation inevitably takes place. Servitudes have to be cleared of excess vegetation at regular intervals in order to allow access to the line for maintenance, to prevent vegetation from intruding into the legally prescribed clearance gap between the ground and the conductors and to minimize the risk of fire under the line, which can result in electrical flashovers. These activities have an impact on birds breeding, foraging and roosting in or in close proximity of the servitude through transformation of habitat, which could result in temporary or permanent displacement.

In the present instance, the risk of displacement of Red Data species due to habitat transformation is likely to be fairly limited given the low reporting rate for Red Data species in the study area. Furthermore, the high levels of disturbance and significant habitat transformation make it unlikely that large raptors will breed in the study area. The biggest potential impact is likely to be where riparian vegetation needs to be cleared, as the majority of remaining large trees are found in riparian woodland along drainage lines, and on koppies.

Depending on how many large trees would need to be removed, the proposed construction of the new power line should have a LOW-MEDIUM habitat transformation impact from an avifaunal perspective. If the removal of large trees can be avoided, the impact of habitat transformation risk is judged to be LOW.

The urban habitat at the proposed Unin and Syferfontein substation and CNC does not contain unique features that will make it critically important for avifauna, particularly the Red Data. The same can be said of the disturbed woodland at the proposed Rampheri CNC.

It is therefore not envisaged that any Red Data species will be displaced by the habitat transformation that will take place as a result of the construction of the proposed Syferfontein substation and the two CNCs, therefore this impact is rated to be LOW.

Apart from direct habitat destruction, the above mentioned construction and maintenance activities also impact on birds through disturbance; this could lead to breeding failure if the disturbance happens during a critical part of the breeding cycle. Construction activities in close proximity could be a source of disturbance and could lead to temporary breeding failure or even permanent abandonment of nests. The low reporting rates for Red Data species in the study area are an indication that they are not regularly utilising the area for breeding.

The impact of disturbance is therefore likely to be LOW and temporary as far as Red Data species are concerned. However, once the alignment is authorised, a detailed inspection would be required to establish if there are any breeding Red Data species that could be disturbed. In such an event, appropriate mitigation measures would need to be implemented (such as postponing the construction of the line to avoid peak breeding season).

ASSESSMENT OF IMPACTS AND PROPOSED MITIGATION MEASURES

Impact during the construction phase

Displacement of Red Data species due to habitat destruction and disturbance associated with the construction of the power line, substation and CNC

- The primary means of mitigating this impact is through the selection of the optimal route for the lines through this area (the Preferred Route). This will ensure that sensitive habitats (e.g. riparian vegetation and water bodies) are avoided as far as possible.
- Construction activity should be restricted to the immediate footprint of the infrastructure.
- Access to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of Red Data species.
- Measures to control noise should be applied according to current best practice in the industry.
- Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum.
- The recommendations of the ecological and botanical specialist studies must be strictly implemented, especially as far as limitation of the construction footprint and rehabilitation of disturbed areas is concerned.
- The final powerline alignment must be inspected on foot by the avifaunal specialist prior to construction to ascertain if any Red Data species nests are present. All relevant detail must be recorded i.e. species, coordinates and nest status. Should any nests be recorded, it would require management of the potential impacts on the breeding birds once construction commences, which would necessitate the involvement of the avifaunal specialist and the Environmental Control Officer. An effective communication strategy should be implemented whereby the avifaunal specialist is provided with a construction schedule which will enable him/her to ascertain when and where such breeding Red Data species could be impacted by the construction activities. This could then be addressed through the timing of construction activities during critical periods of the breeding cycle, once it has been established that a particular nest is active.

Impact during the operational phase

Electrocution of Red Data species on the 132kV line and in the proposed substation

An Eskom approved bird friendly pole design must be used, as per Appendix 2 in the Bird Impact Assessment Report. The Distribution Technical Bulletin must be used in this regard. A Bird Perch must be installed on top of all poles, to provide safe perching substrate for birds well above the dangerous hardware.

With regards to the infrastructure within the substation yard, the hardware is too complex to warrant any mitigation for electrocution at this stage. It is rather recommended that if on-going impacts are recorded once operational, site specific mitigation be applied reactively. This is an acceptable approach because Red Data bird species are unlikely to frequent the substation and be electrocuted.

Impact during the operational phase

Collision of Red Data species with the earthwire of the 132kV line

Every effort must be made to select a route that poses the least risk to birds. High risk sections of power line must be identified by a qualified avifaunal specialist during the walk through phase of the project, once the alignment has been finalized. If power line marking is required (i.e. in areas that contain drainage lines, open savanna habitat and water bodies) bird flight diverters must be installed on the full span length on each of the conductors (according to Eskom guidelines - five metres apart). Light and dark colour devices must be alternated so as to provide contrast against both dark and light backgrounds respectively. These devices must be installed as soon as the conductors are strung.

Impact during the decommissioning phase

Displacement of Red Data species due to disturbance associated with the decommissioning of the power line, substation and CNCs

- Decommissioning activity should be restricted to the immediate footprint of the infrastructure.
- Access to the remainder of the site should be strictly controlled to prevent unnecessary disturbance of Red Data species.
- Maximum use should be made of existing access roads and the construction of new roads should be kept to a minimum.
- The recommendations of the ecological and botanical specialist studies must be strictly implemented, especially as far as rehabilitation of disturbed areas is concerned.

SELECTION OF PREFERRED ALTERNATIVE

The three powerline alternatives are very similar in terms of envisaged impacts on avifauna. All of them cross through essentially the same mosaic of relic areas of savanna, large areas of fallow lands, subsistence agriculture and urban development. No preferred alternative can therefore be identified, as all three alternatives are acceptable options from a bird impact assessment perspective.

CONCLUSION

The proposed power line poses a **moderate** collision risk which can be reduced to **low** through the application of mitigation measures. The electrocution risk is assessed as **low**, due to the proposed structure type, and can be reduced to **very low** with appropriate mitigation. The habitat transformation and disturbance associated with the construction and decommissioning of the power line, Unin and Syferkuil substation and CNC, and the Rampheri CNC should have a **moderate** impact, which could be reduced to **low** with appropriate mitigation.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	The Capricorn	
Date published	25 – 31 May 2016	
Site notice position	Latitude	Longitude
Entrance to the Thabamooop North Substation	23°53'52.00" S	29°42'54.02"E
Entrance to te Syferkuil Substation	23°53'00.73"S	29°42'08.33"E
Unin Switching Station on the Farm Syferkuil	23°52'49.47"S	29°43'56.29"E
Route turns south on the Farm Turfloop	23°52'44.97"S	29°44'49.22"E
Close to crossing R71 on the Farm Turfloop	23°54'04.79"S	29°44'45.43"E
Along dirt road between Makanye and Megoring on the Farm Veerfontein	23°54'25.57"S	29°44'52.21"E
Along route further south on the FarmVeerfontein	23°54'57.65"S	29°44'46.23"E
Close to Magokobo on the farm Rietfontein	23°56'45.44"S	29°44'54.86"E
Close to Sobiago on the farm Dikvrouw	23°58'49.38"S	29°44'46.99"E
At the Ramphere Substation site	24°01'20.92"S	29°43'51.07"E
Date placed	10 May 2016	

Include proof of the placement of the relevant advertisements and notices in **Appendix E1**.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

ACTIONS UNDERTAKEN DURING THE PUBLIC PARTICIPATION PROCESS

- **Notification to the directly affected landowners and Community Liaison**

A list of directly affected landowners was compiled and notification letters were forwarded during June 2016 and onwards. A 30-day commenting period applied.

TYOLSERV PRODUCTION AND PROJECTS were appointed to conduct community liaison with the affected tribal authorities. Please refer to Appendix E for a *Confirmation of Community Liaison Report* in which their actions are being detailed. A summary of that report follows below:

Terms of Reference:

- Identify the relevant tribal authorities and communicate the project details with them
- Communicate with the Department of Rural Development and Land Reform to establish their requirement in terms liaison with tribal authorities and compensation (not necessarily part of the EIA process)
- Assistance with contact details of registered landowners where not readily available.
- Provide proof of communication with the relevant people (i.e. minutes/notes and/or attendance register(s))

Relevant information pertaining to the project (including project components and locality and route maps) was provided by Landscape Dynamics. The following was done:

- There are three relevant tribal councils and/or communities in the study area :
 - *The Molepo Traditional Council*
Kgosi Molepo has recently passed away, all the council processes are put on halt and the tribal council duties will resume once the elder have appointed an interim chief. A briefing for the introduction of the project took place with the secretary, Mr Frans Sephara
 - *The Mamaoakela Traditional Council*
This TC is now dysfunctional since the TC's offices have been burned down. The matter is now in the hands of the courts and investigations are underway. This matter is now governed by the Department of Rural Development and Land Reform
 - *The Bakgaga Ba Mothapo Traditional Council*
This TC was visited and discussions took place with regards to the proposed power line. The project was introduced to the chief, the tribal council as well as the members of the community. Further engagement was agreed upon with regards to keeping the community informed about progress of this project.

- The DRDL provided confirmation of some of the potentially affected landowners on the route. This information had been integrated with the stakeholders list (attached in Appendix E).
- Meetings has been arranged and held with all of the above. The combined attendance register of these meetings are attached hereto (attached in Appendix E).
- The DRDL confirmed that the Minister of the DRDL is the nominal owner of the stateland. They require a site inspection to obtain a community resolution from the land rights holders. They require that the meeting be advertised through adverts and notices 21 days in advance. These requirements must be contained in the Environmental Management Plan of the Basic Assessment Report and must be adhered to during the evaluation and compensation period of the project.

- The following is hereby concluded
 - All reasonable actions have been taken to identify all the potentially affected landowners along the proposed Eskom route alternative within the 1km corridor provided.
 - All reasonable actions had been taken to inform these landowners and/or residents of the proposed Eskom Project.
 - Clarification has mostly been required in terms of compensation and the way forward.
 - No objection had been raised with regards to the proposed Eskom project. In general the people were positive about it.

It is recommended that the Environmental Impact Assessment application for the proposed Eskom Rampheri-Thabamopo North Project could be finalised. All further communication with the landowners in terms of evaluation and compensation as required by the DRDL should take place once Environmental Authorisation has been obtained.

- **Notification to Government Departments, Municipalities and other IAPs**

A General I&AP List was compiled and includes municipalities, government departments and other applicable organisations. Notification letters were emailed / faxed / posted to everyone on this list during June 2016 and onwards. A 30-day commenting period applied.

- **Onsite notification**
Ten English and Sepedi onsite notices were placed along the powerline route on 10 May 2016. The notifications were A2 in size and laminated.
 - **Newspaper Advertisement**
A newspaper advertisement was placed in the Capricorn, a local newspaper, dated 25 – 31 May 2016.
 - **Distribution of the Draft Basic Assessment Report (this document) for comment**
The Draft BAR is being distributed as follows (a 30-day commenting period applies):
 - ❖ Hard copies are being delivered to the
 - National Department of Environmental Affairs: Environmental Authorisation
 - National Department of Environmental Affairs: Biodiversity Section
 - Department of Economic Development, Environment & Tourism
 - Polokwane Local Municipality
 - Department of Water & Sanitation
 - Limpopo Heritage Resources Agency (LIHRA)
 - Department of Rural Development and Land Reform
 - Tyolserv Production and Projects
 - ❖ All registered Interested and Affected Parties would receive an electronic copy of the Draft BAR where possible.
- Public participation to continue:**
- Based on comment received on the Draft BAR, it will be determined if any further public participation measures (i.e. a public meeting) are deemed necessary;
 - Comment received will be responded to in the Final BAR;
 - The Final BAR will be submitted to DEA for approval / refusal of the project.
 - IAPs will be informed of the DEA's decision and their right to appeal.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Please refer to Appendix E for the contact details of below mentioned IAPs

DIRECTLY AFFECTED LANDOWNERS

Molepo's Location 187 Molepo Traditional Council Portion 0 of the Farm Laastehoop 1050 LS, Kgosi Molepo/Induna Mojela/Charles Nyalangu (Lessee) (according to Windeed: RSA Land) For attention : The Secretary, Mr Frans Sefara
Mamaoakela Traditional Council For attention : The Traditional Leader and the Secretary
Bakagaga Ba Mothapo Traditional Council For attention : The Traditional Leader and the Secretary
Portion 0 of the Farm Zamenloop 188 LS, Induna Mojapelo ppn behalf of the Molepo Community

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Portion 1 of the Farm Laastehoop 1054 LS, Benedictine Order of the Roman Catholic Church of South Africa
Portion 1 of the Farm Dikvrouw 1052 LS, Roman Catholic Mission Northern Transvaal, For attention: Right Reverend Bishop Jeremiah Masela also for attention: Priests in the Diocese, Anton MCCJ Graf, (Turfloop)
Portion 2 of the Farm Dikvrouw 1052 L, National Government of the RSA
Portion 0 of the Farm Middelkop 1053 LS National Government of the RSA
Portion 14 of the Farm Rietfontein 1003 LS, Magagane Phashe Johannes
Portion 17 of the Farm Rietfontein 1003 LS, Magagane Charles
Portion 13 of the Farm Rietfontein 1003 LS, Magagane Charles
Portion 12 of the Farm Rietfontein 1003 LS, Magagane Philip Phashe
Mr ME Magagane
Mr Ezekiel Magagane
Heyman Magagane
Portion 10 of the Farm Rietfontein 1003 LS, Mamabolo Rhym
Portion 9 of the Farm Rietfontein 1003 LS, Maake James Gabriel
Portion 6 of the Farm Rietfontein 1003 LS, Bopape Naomi
Portion 5 of the Farm Rietfontein 1003 LS, Mamabolo Lina & Mamabolo Maria & Mamabolo Michael
Portion 4 of the Farm Rietfontein 1003 LS, Seabi Daniel
Portion 11 of the Farm Rietfontein 1003 LS, Manaka Anna Matlhaga
.The Department of Rural Development and Land Reform, for attention MP Ntlhane <ul style="list-style-type: none"> • Portion 0 of the Farm Veerfontein 1004 LS • Portion 0 of the Farm Turfloop 987 LS • Portion 0 of the Farm Middelkop 1053 LS • Portion 0 of the Farm Dikvrouw 1052 LS (adjacent Landowner) <ul style="list-style-type: none"> • Portion 0 of the Farm Laaste Hoop 1050 LS, Kgosi Molepo/Induna Mojapelo/Charles Nyalangu (Lessee) • Portion 2 of the Farm Turfloop 987 LS, National Government of the RSA
Polokwane Local Municipality, Acting Municipal Manager, Ms Faith Maboya (PA: Miss Bontle Ketana): Landowners of the Mankweng Township
University of Limpopo, The Vice Councillor, Landowner of Portion 0 & 2 of the University of the North 1051 LS For attention: Prof M N Mogalong (PA: Frances Pratt), Care of : Mr Selaelo Modubi
Portion 5 of the Farm Syferkuil 921 LS, Magagane Paul
Portion 17 of the Farm Syferkuil 921 LS, National Government of the RSA
Portion 24 of the Farm Syferkuil 921 LS, National Government of the RSA

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Portion 0 &1 of the Mankweng C Erf 1254, Northern Province Government (Department Public Works): Suan Quins, Public Works National
Portion 1, 2, 3 and 4 of the Farm Syferkuil 921/52/31 and Syferkuil RE 1061: Jacobeth Matlawa, Public Works National (Consolidated)
Department of Public Works, Limpopo, Property & Facility Management, General Manager, For attention: Mr P W Kekana
Department of Public Works, Limpopo, Road Infrastructure, General Manager, For attention: Mr Brink Floyd
Department of Public Works, Limpopo, Secretary for the MEC
Department of Public Works, Limpopo, Manager to the MEC and HOD, For attention: Mr N Moloto
Department of Public Works, Limpopo Capricon District, District Director, For attention: Mr Lukas Masedi

GENERAL STAKEHOLDERS

Capricorn District Municipality, Acting Municipal Manager, For attention: Advocate Salome Ledwaba
Polokwane Local Municipality, Acting Municipal Manager, Ms Faith Maboya (PA: Miss Bontle Ketana)
Polokwane Local Municipality, Ward Councillor for Ward 25, For attention: Mr Lekota and Ward Councillor for Ward 26, Mr N D Mokgokong, ALSO Ward 4, 7, 27, 28, & 31.
Polokwane Local Municipality, Director: Planning and Development, For attention: Mr Matome Makgoba
Polokwane Local Municipality, Director: Roads & Stormwater, For attention: Mr N.Sikhauli
Polokwane Local Municipality, Director: Community Services, For attention: Mr H R A Lubbe (PA: Anina)
Polokwane Local Municipality, Director: Environmental Services, For attention: Mr Maxwell L
Lepelle-Nkumpi Local Municipality, Municipal Manager, for attention: Ms Lovey Modiba PA: Ms Thereso Lekgau (this Municipality is in the town Lebowakgomo)
Molemole Local Municipality, Municipal Manager, for attention: Mr N I Makhura PA: Miss Pholobama (this Municipality is in the town Mogwadi)

Include proof that the key stakeholder received written notification of the proposed activities as **Appendix E2**. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

3.1 Comment received during the Initial Advertising Period from 9 June 2016 up to compilation of the Draft BAR

Summary of main issues raised by I&APs and Response from EAP

Commission on Restitution of Land Rights

Correspondence with the Commission confirmed that there is several land claims registered on various properties that could be affected by this Eskom project. This information is applicable when the servitude negotiation process commences. The information was given to Eskom and is also included in Appendix E of this document.

Department of Rural Development and Land Reform

The Department mentioned several properties that are under their management and control, and allocated to the Bakgaga Mothapo Tribal Council. The development of the land will be regulated in terms of the Interim Procedures Governing Land Development and the Interim Protection of Informal Land Rights Act, 1996 (Act 31 of 1996) which requires the consent of the Minister of Rural Development and Land Reform as nominal owner of the land.

A site investigation is required to determine the land use and also to identify if there are land rights holders, which must be consulted and participate in the decision making process, and consent to the development in form of community resolution. Before a community resolution can be advertised or witnessed, their office requires copies of sketch plans, locality maps, land claim status and valuation reports. Once the project has been discussed with the affected parties and agreed upon, a community resolution may be witnessed by an authorised official form LPSSC. Both the department and the land rights holders should be given 21 days' notice prior to the meeting. This meeting should be advertised through adverts / notices specifying the date, time, venue, property description and purpose.

Response

Tyolserv Production and Projects was appointed to conduct community liaison with the affected tribal authorities. The Bakgaga Ba Mothapo Traditional Council was visited and discussions took place with regards to the proposed power line. The project was introduced to the chief, the tribal councillors as well as the members of the community. Further engagement was agreed upon with regards to keeping the community informed about progress of this project.

Note that no objection had been raised by the Tribal Council with regards to this proposed Eskom project. In general the people were positive about it. Clarification has mostly been required in terms of compensation and the way forward.

In terms of this Basic Assessment (BA) process and the issuing of the Environmental Authorisation, the following applies:

- The Council is listed on the Landowners' Register of IAPs and will be communicated with throughout the BA process.*
- Comments and concerns raised will be addressed as required.*
- Servitude negotiations (which will include the community resolution as requested by the Department) will commence after the issuing of the Environmental Authorisation.*

South African Roads Agency, Ms Ria Barkhuizen

She requested that we sent the information to Ms Victoria Bota and Khathutshelo Ramavhoya since they handle all EIA applications for the Northern Region.

Response

The IAP Register was updated accordingly.

Polokwane Local Municipality

The provided the correct name and contact detail for the Director of Roads & Stormwater.

Response

The IAP Register was updated accordingly.

3.1 Comment received on the Draft BAR (to be included in the Final BAR)

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR 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 the Final BAR as **Appendix E3**.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Please refer to Appendix E for the contact details of below mentioned IAPs

GOVERNMENT DEPARTMENTS

Department of Water and Sanitation, Water Regulation and Use, For attention: Ms M M Komape
Limpopo Province Region Department of Water and Sanitation, The Deputy Director : Water Resources Management, For attention: Ms Dorothy Maumela
Department of Economic Development, Environment and Tourism, The Senior Management, EIA Office Limpopo For attention: Mr Victor Mongwe
Limpopo Provincial Government: Economic Development Environment & Tourism, Environmental Impact Management, The Manager: Ms T P Malungane

BASIC ASSESSMENT REPORT

Limpopo Department Economic Development & Tourism: EIA Admin Office, Deputy-director, For attention: Mr V Maluleka
Limpopo Department of Economic Development, Environment & Tourism, Capricorn District, The Senior Environmental Officer, Ms Melinda Rodgers
Limpopo Heritage Resources Agency (LIHRA) Heritage Officer: Mr Donald Lithole
Limpopo Province, Department of Mineral Resources, Deputy Director: Environment Management (Directorate Mineral Development) Mr A Mulaudzi and Thivhulawi Kolani
Department of Mineral Resources, Regional Director, Limpopo Province, Mr Aaron Kharivhe (PA: Tebogo Mangaba)
Department of Cooperative Governance and Traditional Affairs (COGTA), Limpopo Province, Mr Mpho Mogale (CD/Convenor)
Department of Rural Development and Land Reform, Chief Director: Land Restitution Limpopo: Mr Tele Maphoto
Department of Rural Development and Land Reform: Limpopo Province, Land Claims Commissioner: Regional Offices, The Deputy Director: Mrs Loraine Mosebedi
Department of Rural Development and Land Reform, Limpopo Provincial Shared Service Centre Office (LPSSC), For attention: Director: Property Management Limpopo Provincial Shared Service Centre, Enquiries: M P Ntlhane
Group Capital Department – Eskom Properties, Regional Land Portfolio Managers: Ms Bronwyn Stolp and/or Ms Tinkie Holl
Eskom SOC Limited Wayleave Applications: Limpopo Province: Mr Xander Neethling
Road Agency Limpopo (RAL) Manager: Land Use Management: Mr Phuti Montjane
South African Roads Agency: Ms Victoria Bota and Khathutshelo Ramavhoya
Limpopo Department of Public Works, Infrastructure Operations; The General Manager: Infrastructure Planning & Design, Mr Patrick Makape
Transnet Freight Rail: The Senior Manager: - Environment Management: Mr Vincent Matabane
Department of Agriculture, Forestry and Fisheries Land Use and Soil Management, National Land Care Secretariat

Include proof that the Authorities and Organs of State received written notification of the proposed activities as **Appendix E4**.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation 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. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as **Appendix E5**.

Copies of any correspondence and minutes of any meetings held must be included in **Appendix E6**.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. 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

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts 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. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Please note that a comprehensive Impact Assessment (with detailed mitigation measures) is supplied in Appendix F where the impacts are assessed in terms of the following criteria:

- Nature of the impact (what is being affected and how, is it positive or negative);
- Extent (site specific / local / regional / national / global);
- Duration (short / medium / long / permanent);
- Magnitude or intensity of the impact (would the impact be destructive or benign and rated as low / moderate / severe);
- Probability of impact occurring (unlikely / possible / probable / definite)

The mitigation measures as supplied in this Impact Assessment are also included in the Environmental Management Plan.

The **Significance Rating** of an impact is assessed before and after mitigation measures has been applied and refers to the following:

Significance of impact	Explanation of Significance
None	There is no impact at all
Low	Impact is negligible or is of a low order and is likely to have little real effect
Moderate	Impact is real but not substantial
High	Impact is substantial
Very high	Impact is very high and can therefore influence the viability of the project

Please note that detail impact descriptions and mitigation measures are supplied in the Impact Assessment (Appendix F). All mitigation measures are also included in the Environmental Management Plan (Appendix G).

BASIC ASSESSMENT REPORT

Preferred Route Alternative		
Short impact description	Significance before mitigation	Significance after mitigation
<p>Soils / Erosion Concrete foundations will be made for each pylon along the powerline route. Vegetation will therefore be cleared and there may be an increase in surface water runoff which could lead to soil erosion. Erosion is problematic in the southern part of the route and extra care should therefore be taken within these areas.</p>	Medium	Low
<p>Fauna & Flora Loss of natural vegetation, habitat fragmentation (loss of landscape connectivity), impacts on species of special concern (sensitive plant communities), establishment of declared weeds and alien invasive plants and an increased risk for veld fires could impact on the flora within the study area. Disturbance to and/or destruction of habitat and illegal placement of snares could impact on the <i>Fauna</i> within the study area.</p>	Medium	Low
<p>Aquatic Ecosystems Loss of natural vegetation adjacent to and within the freshwater features could have a direct impact on freshwater systems. Flow & water quality modification as a result of increased erosion and invasive plant growth within disturbed areas could also impact on the effective functioning of the freshwater aquatic systems.</p>	Medium	Low
<p>Avifauna (birds) A risk for electrocution, birds colliding with powerlines and habitat destruction & disturbance could have an impact on the <i>avifauna</i> of the area.</p>	Low	Low to very low
<p>Cultural / Heritage Impacts One heritage resource within the Preferred Route Corridor was found, namely a colony of giant aloes (<i>Aloe excelsa</i>) and must be protected.</p>	Low	Very low
<p>Groundwater Potential for groundwater pollution always exists as a result of oil spills, etc. during the construction period.</p>	Medium	Low
<p>Community An influx of workers could result in an increased risk for crime and general safety.</p>	Medium / Low	Low
<p>Air quality Dust created by construction vehicles could impact on air quality during the construction period.</p>	Low	Very Low
<p>Noise Labourers and machinery could result in noise pollution during the construction period.</p>	Low	Very Low

BASIC ASSESSMENT REPORT

Route Alternative 1		
Short impact description	Significance before mitigation	Significance after mitigation
Impacts as described above for Preferred Route Alternative also apply to Route Alternative 1, with additional impacts as described below		
<ul style="list-style-type: none"> • This route passes immediately north of the <i>Burial Ground at Mothapo</i>. This makes this route less suitable for reasons of proximity to the graves if other less difficult options exist. • This alternative has one more stream crossing than the Preferred Alternative • This route is not favoured by Eskom due to the high number of properties involved. <p>Mitigation is the selection of the Preferred Route Alternative</p>	High-Medium	Low

Route Alternative 2		
Short impact description	Significance before mitigation	Significance after mitigation
Impacts as described above for Preferred Route Alternative also apply to Route Alternative 1, with additional impacts as described below		
<ul style="list-style-type: none"> • This route is not favoured by Eskom due to the high number of properties involved. • It is the longest of the three routes, thereby adding considerably to the construction as well as maintenance costs <p>Mitigation is the selection of the Preferred Route Alternative</p>	High	Low

Conclusion of Impact Significant Rating

All identified impacts that this Eskom project could have on the environment can be easily and reasonably mitigated to acceptable levels. There are no impacts that could influence the feasibility and viability of this project.

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as **Appendix F**.

2. 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.

Please note that a comprehensive Impact Assessment (with detailed mitigation measures) is supplied in Appendix F. The Impact Statement below is a summary of the conclusion of this Impact Assessment. All mitigation measures are also included in the Environmental Management Plan (Appendix G).

Alternative 1 (preferred alternative)

Conclusion on selecting an alternative

The Preferred Route for this project was chosen because

- This route is favoured by the botanical, freshwater as well as heritage specialists as described in previous paragraphs in this report. The avi-faunal study concluded that there is no specific preference for a route alternative.
- Route Alternatives 1 & 2 have more sensitive areas that they impact on compared to the Preferred Route Alternative. Route Alternative 2 also tends to impact more and come closer to more granite koppies, which are seen as very sensitive. Route Alternative 2 also tends to run through more, natural bushveld thereby potentially causing greater impact on the natural environment than the other two alternatives.
- It is favoured by Eskom because, even though slightly longer than Route Alternative 1 and 2, it has fewer properties that will be directly affected by the power line.
- No objections were received to the use of this route.

Eskom's technical requirements could also be met with the route as recommended.

Should all mitigation measures as proposed be followed and implemented by Eskom this environmental study concludes that the project and all its activities would not have an unacceptable negative impact on the biophysical and manmade environments. No impacts were identified that could not be mitigated to acceptable levels or that could influence the viability and feasibility of the proposed Eskom Houwhoek F1 Project.

This application is therefore recommended for Environmental Authorisation.

Alternative 2

Route Alternative 2 is not the preferred route alternative due to the following:

- This route passes immediately north of the *Burial Ground at Mothapo*. This makes this route less suitable for reasons of proximity to the graves if other less difficult options exist.
- This alternative has one more stream crossing than the Preferred Alternative
- This route is not favoured by Eskom due to the high number of properties involved.

Mitigation is the selection of the Preferred Alternative.

Alternative 3

- This route is not favoured by Eskom due to the high number of properties involved.
- It is the longest of the three routes, thereby adding considerably to the construction as well as maintenance costs

Mitigation is the selection of the Preferred Alternative.

No-go alternative (compulsory)

Eskom is currently in the process of the upgrading of various electrical networks in the Limpopo Province and this Rampheri- Thabamoopo North Project forms part of this vision and upgrades. To not construct the new 132kV power line, not upgrade the substations, to not construct the new CNCs and to continue the use of the 33kV power line, will have a huge negative impact on various electrical networks within the province.

The no-go option is definitely not the preferred alternative for this project.

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
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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).

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

The Environmental Management Plan contains, amongst other, the mitigation measures as supplied in this report. It is therefore recommended that the implementation of the Environmental Management Plan must be a condition in the authorisation of the project.
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Is an EMPr attached?

YES	NO
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The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

NAME OF EAP

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

Appendix A: Maps

- Locality Map
- Route Map: Routes Originally Investigated
- Route Map: Preferred & Alternative Routes
- List of all affected properties and SG 21 Digit Codes
- 250m coordinates of the Preferred Route
- Ecological and Freshwater Sensitivity Map
- SANBI Maps:
 - Limpopo Conservation Plan (Critical Biodiversity Areas and Ecological Support Areas)
 - Terrestrial Ecosystem Threat Status
 - National Protected Areas
 - Wetlands and Rivers

Appendix B: Photographs

- Photo Report

Appendix C: Facility illustration(s)

- Typical 132 kV structures and substation layout
- Typical layout of a CNC
- Unin Upgrade

Appendix D: Specialist reports (including terms of reference)

- Biodiversity Assessment (Fauna, Flora & Aquatic) – Setala Consulting
- Heritage Impact Assessment- Ecorite Consultants
- Bird Impact Assessment - Chris van Rooyen Consulting

Appendix E: Public Participation

- E1a – Proof of Placement of Advertisements: Newspaper
- E1b – Proof of Placement of Advertisements: Onsite Notices
- E3 – Proof of distribution of 1st Phase Notification Letter
- E3 – Proof of Notification of availability of the Draft BAR to all IAPs (*to be included in Final BAR*)
- E4 – Comments & Responses Report
- E5 – Complete register of Interested & Affected Parties
- E6 – Copies of Correspondence, notes and minutes of meetings
 - E6.1 Written comment received during the first phase notification period
 - E6.2 Written comment received on the Draft BAR (*to be included in the Final BAR*)
- E6 – Community Liaison
 - Confirmation of Community Liaison Report – Tyolserve Production and Projects
 - Attendance Register

Appendix F: Impact Assessment

- Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

- Environmental Management Programme

Appendix H: Details of EAP and expertise

- [Landscape Dynamics Company Profile and Condensed CVs](#)

Appendix I: Specialist's declaration of interest

- [Ecologist, Heritage Practitioner and Bird Specialist](#)

Appendix J: Additional Information

- [Not applicable](#)