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

1. Project Name

Proposed new Eskom Klipkop-Lehating 132kV Powerline, Northern Cape

2. Project Proponent and Overview

It is the intention of Eskom Distribution, Northern Cape Operating, to construct the new Klipkop-Lehating 132 kV Double Circuit Chickadee powerline (±14km in length) between the new Lehating Substation and the existing Klipkop Substation, Northern Cape Province. The new Lehating Substation is not part of this project and approval has already been obtained for this (see paragraph 4 below). The existing Klipkop Substation is situated 12km North West of Hotazel, and the Lehating Substation will be situated approximately 14km north of the existing Klipkop Substation. In addition, the new Klipkop-Lehating Line will loop in and out of the existing Wessels Substation. These loop-in and loop-out lines also form part of the proposed project. Refer to Figure 1 which shows the location of the project. Three (3) powerline route alternatives have been assessed as part of this Environmental Authorisation Process (Refer to Figure 2). Refer to Appendix A for a detailed locality and project layout maps.

3. Project Location

The new Lehating Substation will be situated on Portion 1 of the Farm Lehating 741, and the existing Klipkop Substation is situated on Portion 9 of the Farm N`Chwaning 267. The existing Wessels Substation is situated on the Remaining Extent of the Farm Wessels 227 owned by BHP Billiton. The location of the existing Wessels Substation is shown as the red dot in Figure 2. The project is located within the Joe Morolong Local Municipality and within the John Taolo Gaetsewe District Municipality.

Existing Klipkop Substation:	27° 8'10.77"S	22°50'39.62"E
New Lehating Substation	27° 2'25.53"S	22°51'22.87"E
Existing Wessels Substation	27° 6'56.60"S	22°51'15.83"E

4. Project Need and Desirability

Lehating Mining (Pty) Ltd appointed SLR Consulting to undertake an Environmental Authorisation process for the establishment of the Lehating Mine, on Portion 1 of the Farm Lehating 741. The Northern Cape Department of Environment and Nature Conservation granted authorisation for the establishment of the mine, on the 22nd of September 2014 (Ref No: NC/EIA/JIC/JOE/LEH2/2012). The construction of the Lehating Substation formed part of the application which was undertaken by SLR Consulting and authorisation was therefore obtained for the construction of the substation. Lehating Mining (Pty) Ltd approached Eskom Distribution, Northern Cape Operating Unit to assist with the supply of electricity to the new substation. The Klipkop Substation is ideally situated to provide electricity supply to the Lehating Substation.

5. Project Environmental Consultant

Jeffares and Green (Pty) Ltd Engineering and Environmental Consultants have been appointed by Eskom Distribution Northern Cape Operating Unit, as the independent Environmental Assessment Practitioner to undertake the Environmental Basic Assessment and Water Use License Application processes for this project. Jeffares and Green (Pty) Ltd has rebranded to JG Afrika (Pty) Ltd in April 2016.

6. Proposed Alternatives

Three powerline route alternatives between the Klipkop and Lehating Substation, via the Wessels Substation were identified. Each route alternative has a 1km wide study area which was investigated during the EA Process. Refer to Figure 2.

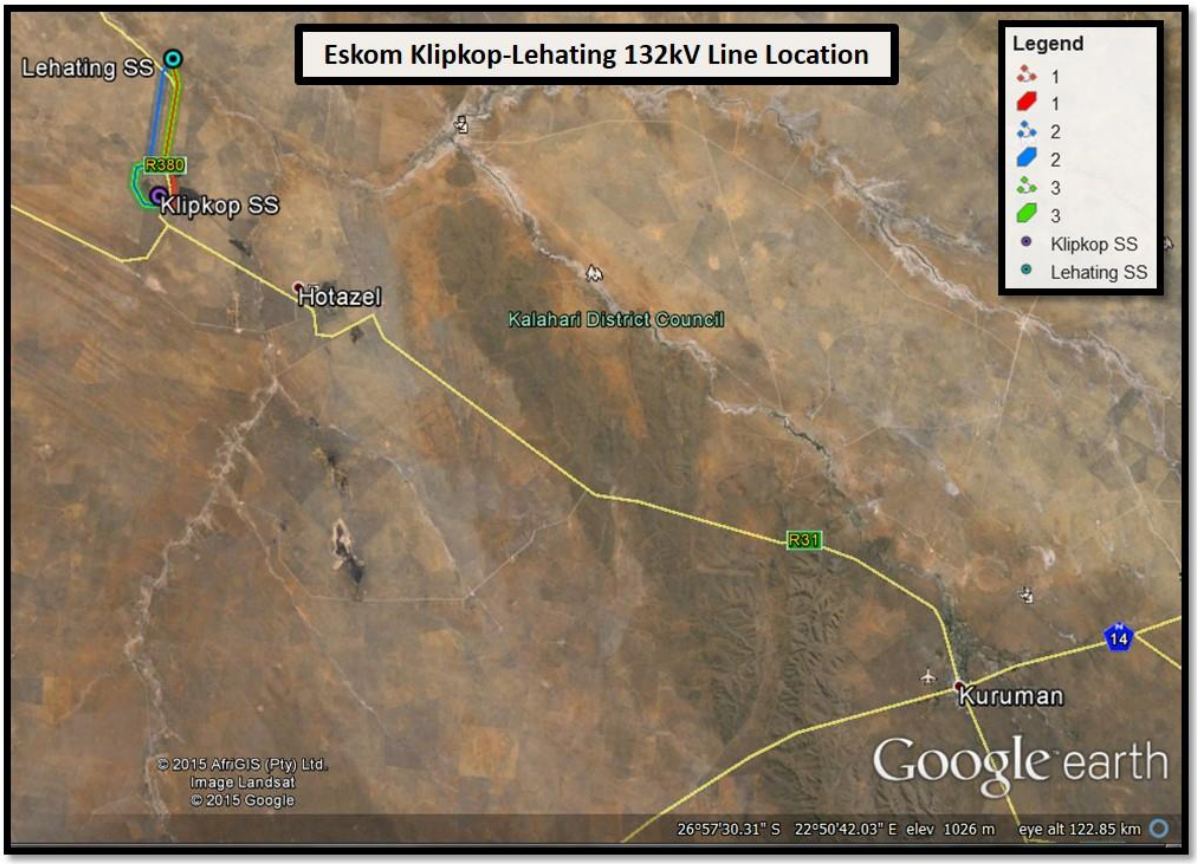


Figure 1: Project Location

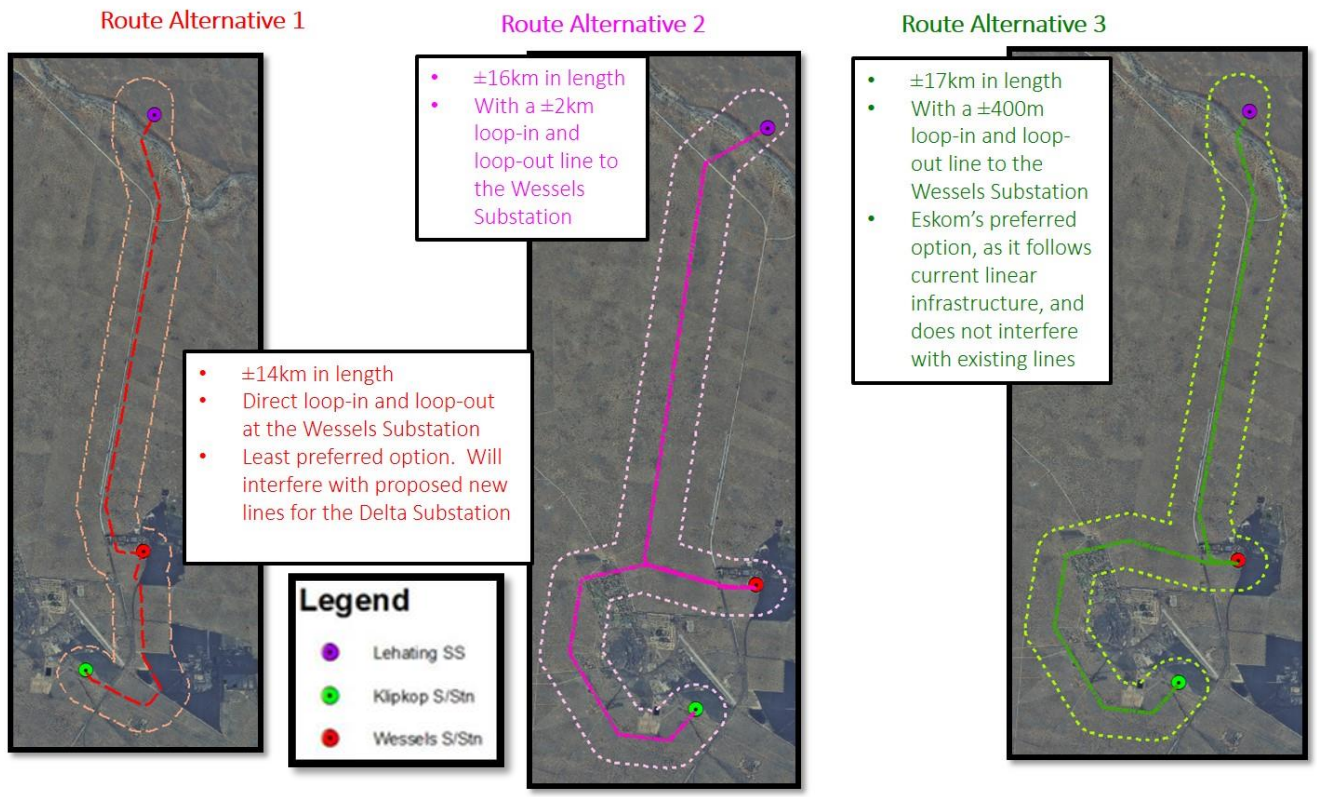


Figure 2: Proposed Alternatives

A list of all the potentially affected farm portions are provided in the table below.

Eskom Lehating Project - List of Properties Affected by the Various Line Alternatives			
21 Digit Surveyor General Code	Portion No	Farm Name	Full Property Description
0000C04100000000264000001	RE/264	DRAKENSTEIN 264	Remaining Extent of the Farm Drakenstein 264
0000C04100000000264000010	1/264	DRAKENSTEIN 264	Portion 1 of the Farm Drakenstein 264
0000C04100000000267000010	1/267	N`CHWANING 267	Portion 1 of the Farm N`Chwaning 267
0000C04100000000267000040	4/267	N`CHWANING 267	Portion 4 of the Farm N`Chwaning 267
0000C04100000000267000060	6/267	N`CHWANING 267	Portion 6 of the Farm N`Chwaning 267
0000C04100000000227000020	2/227	WESSELS 227	Portion 2 of the Farm Wessels 227
0000C04100000000227000010	1/227	WESSELS 227	Portion 1 of the Farm Wessels 227
0000C04100000000741000010	1/741	LEHATING 741	Portion 1 of the Farm Lehating 741
0000C04100000000228000001	RE/228	BOERDRAAI No. 228	Remaining Extent of the Farm Boerdraai 228
0000C04100000000703000730	73/703	FARM No. 703	Portion 73 of Farm No 703
0000C04100000000265000001	RE/265	MUKULU 265	Remaining Extent of the Farm Mukulu 265
0000C04100000000267000090	9/267	N`CHWANING 267	Portion 9 of the Farm N`Chwaning 267
0000C04100000000267000001	RE/267	N`CHWANING 267	Remaining Extent of the Farm N`Chwaning 267
0000C04100000000227000001	RE/227	WESSELS 227	Remaining Extent of the Farm Wessels 227
0000C04100000000230000010	1/230	SANTOY No. 230	Portion 1 of the Farm Santoy 230
0000C04100000000230000020	2/230	SANTOY No. 230	Portion 2 of the Farm Santoy 230
0000C04100000000230000001	RE/230	SANTOY No. 230	Remaining Extent of the Farm Santoy 230

0000C04100000000229000001	RE/229	BERGHEIM No. 229	Remaining Extent of the Farm Bergheim 229

During the Public Participation Phase, Ntsimbintle Mining / Tshipi é Ntle (hereafter referred to as Ntsimbintle) contacted Jeffares & Green and mentioned that they are proposing new mining activities within the Alternative 3 study corridor. Ntsimbintle indicated that the Farm Wessels 227 used to belong to Samancor. The Farm Wessels was then subdivided into Portions 1 and 2. The Remaining Extent of the Farm Wessels, as well as Portion 1, still belong to Samancor. Ntsimbintle now owns the surface rights of Portion 2 of the Farm Wessels, and Mr Willem Strauss has got grazing rights on Portion 2.

Ntsimbintle indicated that the current proposed centre line of the Alternative 3 study corridor will interfere with their proposed mining activities. A meeting was held with Mr Jeff Leader, from Ntsimbintle, on the 14th of March 2016 to determine how the proposed Alternative 3 centre line could be deviated in order to avoid the proposed mining areas. Two deviations for the current centre line were determined, deviation 3A and deviation 3B. Both deviations follow the current centre line of Alternative 3, from the Klipkop Substation for almost all the way. At approximately 2km south of the Lehating Substation, the deviations commence. Below is an image showing the two deviations, as well as a rough indication of where Ntsimbintle proposes their mining activities.

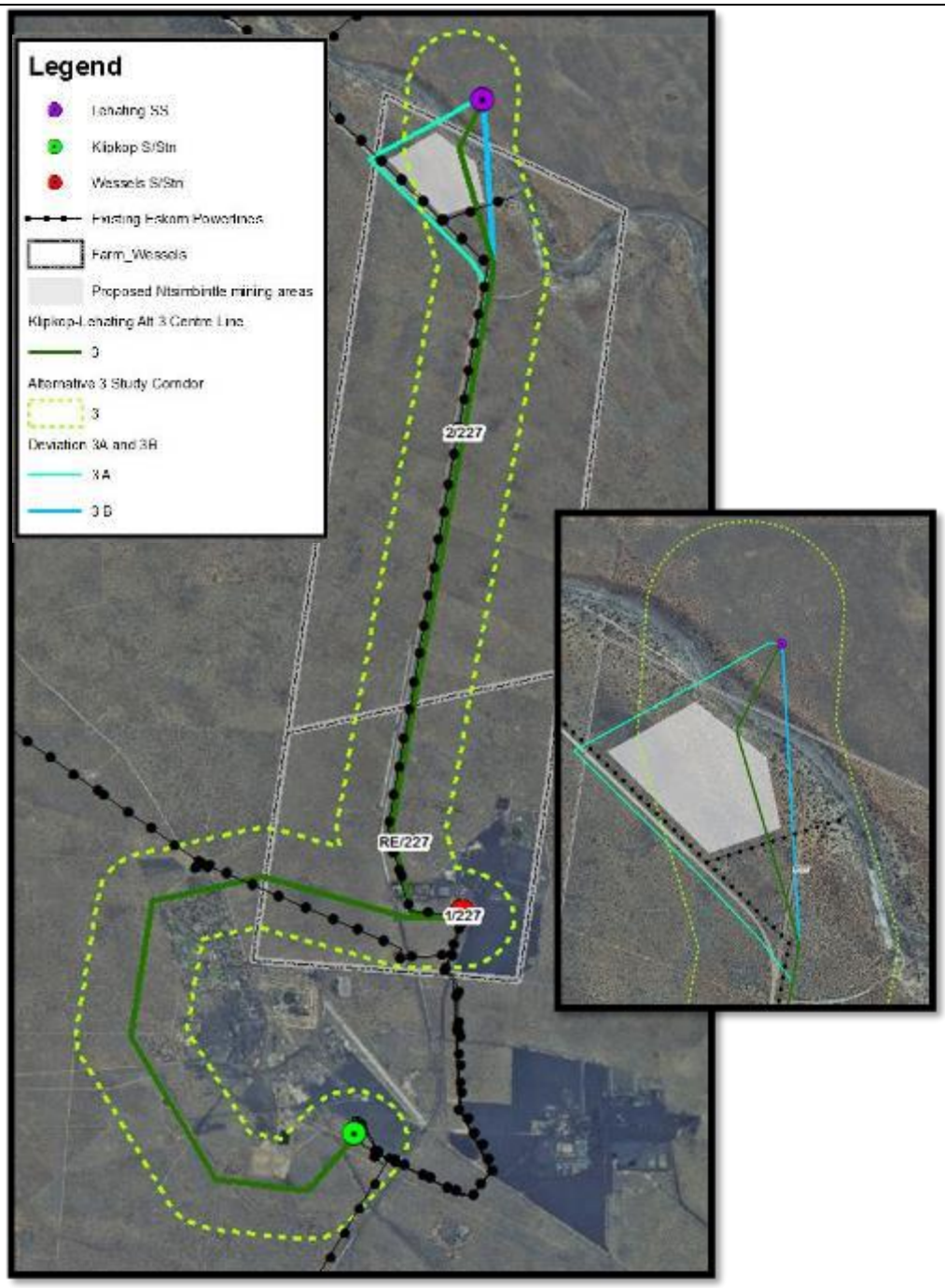


Figure 3: Alternative 3 Centre Line Deviations

All Specialist Assessments, as well as the impact assessment undertaken as part of this Basic Assessment process, revealed that study corridor Alternative 3 is the preferred alternative. As deviation 3A falls outside of the Alternative 3 study corridor, deviation 3A will not be considered. Alternative 3B falls within the Alternative 3 study corridor and is therefore a feasible alternative to consider. It should be noted that the Specialist Studies and impact assessment undertaken were based on the study corridors, and not the centre lines, as the exact location of the powerline within the study corridor will only be determined after Environmental Authorisation was obtained. Specialists were however asked to comment on deviation 3B to ensure that the powerline could be routed within corridor Alternative 3.

7. Infrastructure Details

Double circuit steel monopole structures will be used, which accommodates two sets of conductors (Refer to Figure

4). A lattice structure or two pole structure is sometimes used at bends or crossings (Refer to Figures 4 & 5). A single circuit steel monopole structure can also be used (refer to Figure 7).

These monopoles vary in height between 18.2-24.2m and can span between 350-455m, meaning that the monopoles will be between 350-455m apart, depending on the gradient of the site, and the number of turning points required. However, the spans for this specific project was not yet confirmed by the Eskom Engineers.

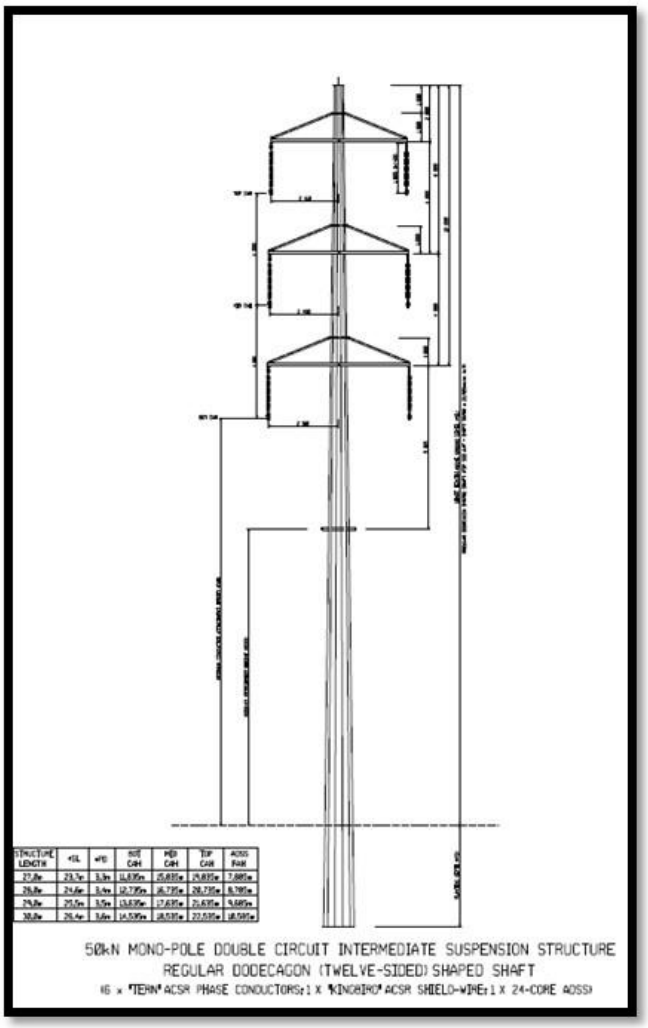
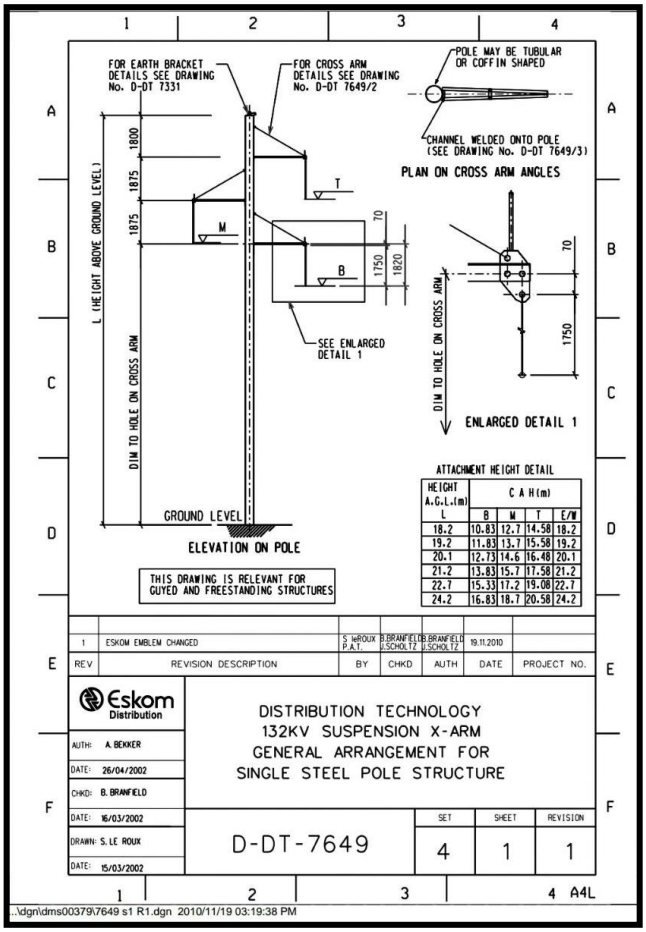


Figure 4: Double Circuit Monopole Structure



HEIGHT A.G.L.(m) L	CAH(m) B	W	T	E/W
18.2	10.83	12.7	14.58	18.2
19.2	11.83	13.7	15.58	19.2
20.1	12.73	14.6	16.48	20.1
21.2	13.83	15.7	17.58	21.2
22.7	15.33	17.2	19.08	22.7
24.2	16.83	18.7	20.58	24.2

Figure 5: Single circuit Monopole Structure

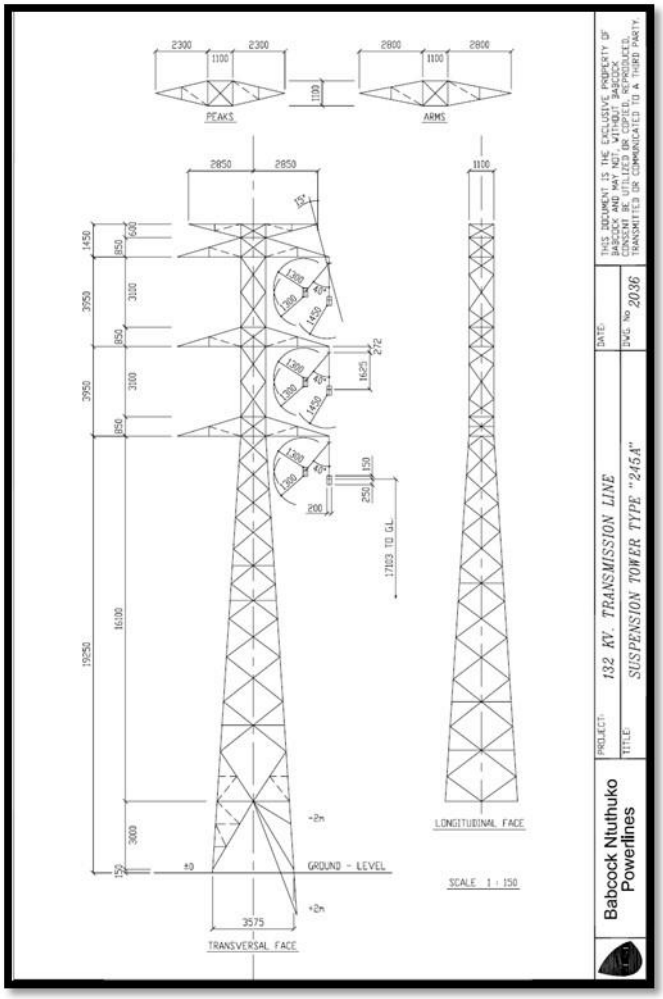


Figure 6: Lattice Structure

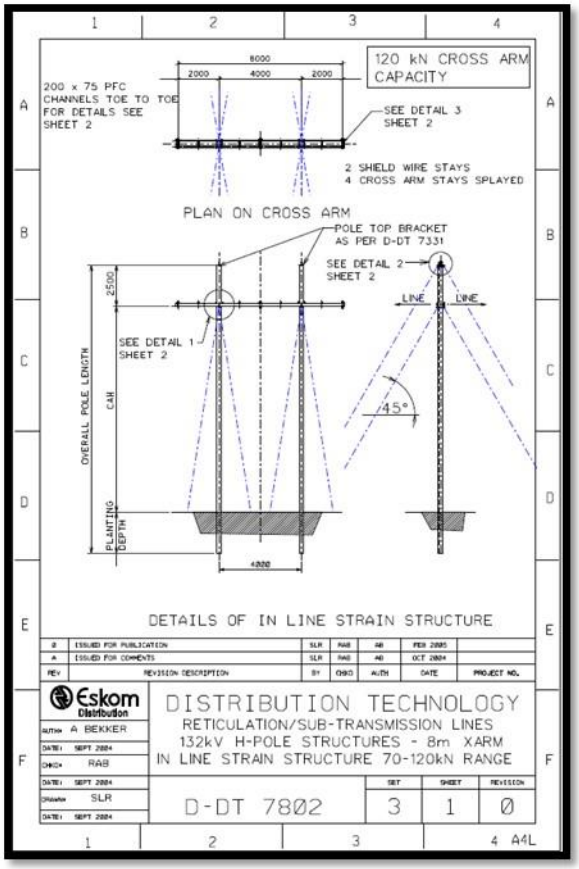


Figure 7: Two Pole Structure

8. Servitude & Construction Details

The powerlines will have a 52m wide servitude, which will include a 15.5m wide servitude on either side of the powerlines with a 21m separation distance between the two lines.

The following Eskom Procedures will be followed for the pole planting and pole compaction:

- *Eskom's Procedure for Conventional stay planting and compaction, pole planting and compaction, and Rock Anchor installation and testing DSP 34-1657).* This document is not attached to this Basic Assessment Report. The document can be obtained from Eskom's website.

As the proposed powerline will traverse the Kuruman River, some poles will have to be planted within the 1:100-year floodline of the Kuruman River, as well as within the demarcated wetland buffer areas. Refer to Wetland and Floodline Map which is attached to Appendix A of this Basic Assessment Report. The pole positions within the wetland buffer areas are not yet known. A Water Use Authorisation will be required for the construction of poles within the wetland buffer area. The exact pole positions and the method statement for the construction of the poles within the wetland buffer areas will be included in the Water Use License Technical Report.

Construction Camp and Materials Storage Area:

The construction camp and materials storage area will be situated on a site that will be rented by Eskom. Eskom will negotiate the location of the construction camp with relevant landowners in the nearby vicinity.

Contractors Camp:

A contractor's site office and material storage facility will be established on a site that will be rented by Eskom. All contractors will be based in Hotazel and will travel to site on a daily basis.

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

Listed activity as described in GN 983, 984 and 985	Description of project activity
GN R 983 – Item 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.	This project involves the construction of a new 132kV Powerline of 14km in length outside of an urban area.
GN R 983 – Item 19 The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from- i. a watercourse; but excluding where such infilling, depositing , dredging, excavation, removal or moving- (a) will occur behind a development setback; (b) is for maintenance purposes undertaken in accordance with a maintenance management plan; or (c) falls within the ambit of activity 21 in this Notice, in which case that activity applies.	The proposed powerline will traverse the Kuruman River. The exact location of infrastructure is not yet known, and therefore the applicability of this activity will only be known at a later stage.

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 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 (NOT APPLICABLE)

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):**
Alternative S1 (preferred)		
• Starting point of the activity	27° 8' 12.276" S	22° 50' 40.195" E
• Middle/Additional point of the activity	27° 4' 48.629" S	22° 51' 9.856" E
• End point of the activity	27° 2'25.53"S	22°51'22.87"E
Alternative S2 (if any)		
• Starting point of the activity	27° 8' 12.586" S	22° 50' 39.181" E
• Middle/Additional point of the activity	27° 4' 45.610" S	22° 50' 27.093" E
• End point of the activity	27° 2'25.53"S	22°51'22.87"E
Alternative S3 (if any)		
• Starting point of the activity	27° 8' 12.586" S	22° 50' 39.181" E
• Middle/Additional point of the activity	27° 4' 48.629" S	22° 51' 9.856" E
• End point of the activity	27° 2'25.53"S	22°51'22.87"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.

b) Lay-out alternatives (NOT APPLICABLE)

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)
Double circuit overhead power line
Alternative 2
Cabling could be used but it is not viable due to the distance of the line, the increase cost of using cables and the lack of expertise in Eskom to maintain and operate cables.
Alternative 3
Renewable energy is not feasible for the size of the operation and the request is a direct customer request for a double circuit overhead line.

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

Alternative technologies have not been considered as the technology to be used is already considered as the most appropriate technology and in some cases has been specifically designed for the existing environmental conditions and terrain, as specified by standard Eskom specifications and international best practice. The pylons under consideration for this project are the most appropriate based on the terrain and design integrity as well as for the purpose for which the power line is to be constructed.

e) No-go alternative

Without the construction of the new Klipkop-Lehating Powerline, electricity provision to the new Lehating Substation will not be possible. Without electricity supply the construction and operation of the Lehating Substation will not be possible and mining operations at the new Lehating Mine will be affected.

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:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

or, for linear activities:

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

Alternative:	Length of the activity:
Alternative A1 (preferred activity alternative)	±14,000 m
Alternative A2 (if any)	±16,000 m
Alternative A3 (if any)	±17,000 m

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

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative)	14,000m x 31m servitude = 434,000 m^2
Alternative A2 (if any)	16,000m x 31m servitude = 496,000 m^2
Alternative A3 (if any)	16,000m x 31m servitude = 527,000 m^2

4. SITE ACCESS

Does ready access to the site exist?	YES	&	NO
	x		x
If NO, what is the distance over which a new access road will be built			±600 m

Describe the type of access road planned:

Ready access occurs for the majority of the proposed powerline routes. Access to the substation site on the Lehating site is difficult as no roads exist to reach the site. An access road would have to be constructed that will provide access from the main road to the substation site. This access road however formed part of the Environmental Authorisation Process that was undertaken for the Lehating mine. A map is attached to Appendix A which shows the location of the approved access road.

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
	x &	x	
The majority of the proposed powerline will be constructed on farm land. It is unlikely that the proposed powerline will fall within the land use rights of these farms. The powerline will also traverse several mining properties and the construction of a powerline may fall within the land use rights of the mining properties. The powerline and structures will be located in a servitude area that will be registered by Eskom upon completion of landowner consideration negotiations. The substation will be located on farm land. As Environmental Authorisation was already obtained for the Lehating mine and associated substation, on the Farm Lehating, hence it is assumed that powerline will fall within the land use rights of the new mining site.			

2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES **x**	NO	Please explain
The sectoral policies, objectives and implementation strategies outlined in the Northern Cape SDF, 2012, are based on Section 15, Chapter IV, of the Northern Cape Planning and Development Act 7 of 1998, and include *inter alia* the following: *a) the current and the future socio-economic benefits, opportunities and constraints offered by the private sector;* *b) the spatial distribution of the activities within the sector and their spatial relationship with markets and transportation;* *c) the current and future impact of the activities of the sector on the distribution and scale of settlements;* *d) the impact that the activities have or could have on ecologically sensitive systems or processes and areas of biological diversity, and any measures which may need to be taken to protect or enhance these areas;* *e) the need for bulk engineering and social services including electricity, water, health, education, housing, and recreational facilities; and* *f) the fiscal and budgetary capacity of all spheres of government relevant to provincial expenditure.* Based on the above this proposed project is in line with the PSDF.			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
Not Applicable. The site is located in a rural area where the urban edge does not apply.			

(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 X	NO	Please explain

The Land Development Plan (Spatial Development Framework), September 2012, for the Joe Morolong Local Municipality contains eight (8) development objectives to be achieved. These objectives and the strategies to be implemented to achieve these objectives are provided in the table below:

Development Objective	Strategy
Objective 1: The integration of various areas in the Municipality to form a well-functioning space economy.	• Channel development into a System of nodes and corridors, in accordance with the Principles of the National Spatial Development Perspective; • Do not promote or support developments that are out of context with the desired development directions. • Development must be localised in specific strategic areas where there can be a focused effort on the provision of engineering services, transportation and land use integration. • Consolidate existing areas rather than creating new development areas.
Objective 2: The development of sustainable human settlements and renewal of existing settlements.	• Move away from the current pattern of housing delivery towards an approach of integrated, inclusive and sustainable settlement creation. • Employ the principles of Breaking New Ground in all new settlements, as well as in the upgrading and renewal of existing settlements. • Identify land for housing projects in close proximity to core areas, and with the emphasis on improved linkages.
Objective 3: The promotion and facilitation of economic development.	• Support and develop strategic locations that contain the right characteristics to enable sustainable economic development and which contribute to the overall spatial efficiency and sustainability.
Objective 4: The sustainable management of the natural environmental assets and heritage.	• Identify and isolate the valuable natural assets, and exclude these from development proposals. • Ensure that a continuous ecological and open space system is created. • Ensure the conservation and sustainable management of conservation areas.
Objective 5: The promotion of tourism development.	• Identify tourism development opportunities within the Municipality. • Ensure linkages to tourism development areas. • Recognise the important role the private sector and land owners play in tourism development.
Objective 6: The promotion of sustainable rural development.	• Identify and protect high potential agricultural land.
Objective 7: The development and improvement of linkages with surrounding areas of importance.	• Develop a movement network that supports the spatial development focus areas. • Create a Strategic Network of movement linkages in the Municipality, and between major regional centres. • Ensure land use and transportation integration.
Objective 8: Service delivery, specifically focusing on providing sufficient capacity in development priority areas.	• Ensure the provision of service infrastructure in accordance with spatial requirements (i.e. the integration of Spatial Planning and Engineering Services Master Planning). • Identify the strategic areas of opportunity that should be the focus areas for capital investment in engineering services infrastructure.

The proposed Klipkop-Lehating powerlines will provide power to the new Lehating mine. The proposed powerline therefore does not fit into any of the above objectives, as it will not form part of municipal infrastructure for electricity provision. It is assumed that Objectives 3 and 4 were considered as part of the Lehating Mine application.

In terms of the Draft IDP, 2015/2016, for the Joe Morolong Local Municipality, the following five (5) key performance areas have been identified:

- KPI 1: Basic Service Delivery
- KPI 2: Local Economic Development (LED)
- KPI 3: Municipal Transformation and Organizational Development
- KPI 4: Municipal Finances and Financial Viability
- KPI 5: Good Governance and Community participation

As the proposed Klipkop-Lehating powerline will provide power to the Lehating Mine, the powerline project is in line with KPI 2.

(d) Approved Structure Plan of the Municipality	YES	NO	Please explain

No structure plans could be found for the Joe Morolong Local Municipality.

(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 **X**	NO	Please explain

No Environmental Management Framework is available for the Joe Morolong Local Municipality, or for the John Taolo Gaetsewe District Municipality.

Only a State of the Environment Report could be sourced for the Northern Cape, which was compiled in 2004 by the CSIR. The Key Environmental Indicators provided in this State of the Environment Report was based on the Key Performance Indicators (KPI's) as provided in the IDP's of each Local Municipality.

In terms of the Draft IDP, 2015/2016, for the Joe Morolong Local Municipality, the following five (5) key performance areas have been identified:

- KPI 1: Basic Service Delivery
- KPI 2: Local Economic Development (LED)
- KPI 3: Municipal Transformation and Organizational Development
- KPI 4: Municipal Finances and Financial Viability
- KPI 5: Good Governance and Community participation

As the proposed Klipkop-Lehating powerline will provide power to the Lehating Mine, the powerline project is in line with KPI 2.

(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain

The proposed project is in line with the following:

- The Land Development Plan (Spatial Development Framework), September 2012, for the Joe Morolong Local Municipality
- The Draft IDP, 2015/2016, for the Joe Morolong Local Municipality.

In terms of the above it is assumed that the proposed project will be in line with all other plans.

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)?	YES **X**	NO	Please explain
Refer to 2 (c) above			
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.)	YES **X**	NO	Please explain
The proposed Klipkop-Lehating powerline will provide electricity to the new Lehating mine. The purpose of the Klipkop-Lehating powerline and the approved Lehating Substation is not to strengthen the power grid in the study/municipal area. It does however provide for electricity infrastructure to expand in the area and makes it possible to accommodate new applications to the grid in the area. Although the local community will not benefit directly from the electricity supply, they will indirectly benefit from it as the electricity supply is required for a new mine which will create new job opportunities and will boost economic development in the area.			
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.)	YES	NO	Please explain
Not Applicable. The development is for the provision of services, and does not require any services. No other services such as ablution facilities will be constructed at the substation.			
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.)	YES	NO **X**	Please explain
The proposed Klipkop-Lehating powerlines will provide power to the new Lehating mine. The proposed powerline therefore does not form part of municipal infrastructure planning. However, comment from the Joe Morolong Local Municipality will be requested during the Commentary Authority Review period.			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO **X**	Please explain
The proposed Klipkop-Lehating powerlines will provide electricity to the new Lehating mine. The purpose of the Klipkop-Lehating powerline and the approved Lehating Substation is not to strengthen the power grid in the study/municipal area. It does however provide for electricity infrastructure to expand in the area and makes it possible to accommodate new applications to the grid in the area. Although the local community will not benefit directly from the electricity supply, they will indirectly benefit from it as the electricity supply is required for a new mine which will create new job opportunities and will boost economic development in the area.			

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 X	NO	Please explain
The Northern Cape Department of Environment and Nature Conservation granted authorisation for the establishment of the Lehating mine on the 22nd of September 2014 (Ref No: NC/EIA/JIC/JOE/LEH2/2012). The development of the Lehating Substation was approved as part of the mine application. As the mine and substation application were approved, it is assumed that proposed powerline will be in line with current land use.			
9. Is the development the best practicable environmental option for this land/site?	YES X	NO	Please explain
There are various mines situated in the study area, and the proposed powerlines will provide electricity to a mine. Development required for mining expansion should therefore be suitable for the land in the study area.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES X	NO	Please explain
The proposed powerline will be constructed on farm land and on mining land. The proposed powerlines will have a very small development footprint. The project will not result in any negative visual impact due to its remote location. Farming activities could be disrupted during the construction phase. Very little impact is expected during the operational phase of the powerlines. The powerlines are required to provide electricity to the new Lehating mine. Without electricity, the mine cannot become operational. It is believed that the positive impacts of job creation/ economic development will outweigh the minor visual negative impacts or the construction negative impacts.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES X	NO	Please explain
The proposed development could set an example to the local municipality, should the municipality construct a powerline.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO X	Please explain
As mentioned previously, the proposed powerlines will have a very small development footprint. The project will not result in any negative visual impact due to its remote location. Farming activities could be disrupted during the construction phase. Very little impact is expected during the operational phase of the powerlines. The powerlines are required to provide electricity to the new Lehating mine. Without electricity, the mine cannot become operational. No person's rights are expected to be negatively affected; but may be positively affected through job creation.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO X	Please explain
The sites earmarked for powerline development is situated outside of the urban edge, and will not compromise the urban edge in any way.			

14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO X	Please explain

The proposed powerlines are not a registered SIP project.

The Strategic Integrated Projects include the following:

1. SIP 1: Unlocking the Northern Mineral Belt with Waterberg as the Catalyst;
2. SIP 2: Durban- Free State– Gauteng Logistics and Industrial Corridor
3. SIP 3: South Eastern node & corridor development
4. SIP 4: Unlocking the economic opportunities in North West Province
5. SIP 5: Saldanha-Northern Cape Development Corridor
6. SIP 6: Integrated Municipal Infrastructure Project
7. SIP 7: Integrated Urban Space and Public
8. SIP 8: Green Energy in support of the South African economy
9. SIP 9: Electricity Generation to support socio-economic development
10. SIP 10: Electricity Transmission and Distribution for all
    - Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and **support economic development**.
11. SIP 11: Agri-logistics and rural infrastructure
12. SIP 12: Revitalisation of public hospitals and other health facilities
13. SIP 13: National school build programme
14. SIP 14: Higher Education Infrastructure
15. SIP 15: Expanding access to communication technology
16. SIP 16: SKA & Meerkat
17. SIP 17: Regional Integration for African cooperation and development
18. SIP 18: Water and sanitation infrastructure

15. What will the benefits be to society in general and to the local communities?	Please explain

The proposed powerlines are required to supply electricity to the Lehating mine. The new mine will create new job opportunities and will contribute to economic growth. Without electricity, the mine cannot become operational. Therefore, the proposed powerlines will have an indirect positive impact on economic growth and employment opportunities.

16. Any other need and desirability considerations related to the proposed activity?	Please explain

Refer to 15 above.

17. How does the project fit into the National Development Plan for 2030?	Please explain

The National Development Plan for 2013 identified the following nine main challenges to be addressed by 2030. These nine challenges include the following:

1. Too few people work;
2. The standard of education for most black learners is of poor quality;
3. Infrastructure is poorly located, under-maintained and insufficient to foster higher growth;
4. Spatial patterns exclude the poor from the fruits of development;
5. The economy is overly and unsustainably resource intensive;
6. A widespread disease burden is compounded by a failing public health system;
7. Public services are uneven and often of poor quality;
8. Corruption is widespread; and
9. South Africa remains a divided society.

Based on the above a list of categories or areas which requires development and upgrading in order to enable sustainable development were developed. These areas include the following:

- Creating jobs and livelihoods;
- Expanding infrastructure;
- Transitioning to a low-carbon economy;
- Transforming urban and rural spaces;
- Improving education and training;
- Providing quality health care;
- Building a capable state;
- Fighting corruption and enhancing accountability; and
- Transforming society and uniting the nation.

The proposed powerlines are required to supply electricity to the Lehating mine. The new mine will create new job opportunities and will contribute to economic growth. Without electricity, the mine cannot become operational. Therefore, the proposed powerlines will have an indirect positive impact on economic growth and employment opportunities.

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

The general objectives of IEM as set out in Section 23 of NEMA have been taken into account as follows:

- Modes of Environmental Management best suited to ensuring that a particular activity is pursued in accordance with the principles of environmental management as set out in section 2 of NEMA have been identified and employed. Refer to Section 19 below;
- The actual and potential impact on the environment, where identified, are predicted and evaluated. Refer to the Impact Assessment Methodology and Impact Assessment in Section D of this Report, as well as the Impact Assessment ratings attached to Appendix F of this Report;
- Adequate consideration was given to the effect of activities on the environment through the undertaking of the impact assessment, as well as through the compilation of the Environmental Management Plan (EMP);
- A Public Participation Process as per the requirements as set out in Section 41 of Regulation 982 on the Environmental Impact Assessment Regulations has been undertaken. The Draft Basic Assessment Report will be made available for Public and Commentary Authority review to ensure that appropriate and adequate opportunity will be provided to these parties to provide comment or raise issues and concerns with regards to the effect that the proposed project may have on the environment.
- Environmental attributes which may have a significant effect on the environment were considered in the management and decision making process, through the undertaking of the impact assessment, and through the compilation of the EMP.

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

The principles of environmental management as set out in Section 2 of NEMA, have been considered during the undertaking of the Impact Assessment, formulation of mitigation measures, as well as during the compilation of the Environmental Management Plan. Some important principles addressed as part of this project are outlined below:

- Section 2(4)(a) of NEMA discusses sustainable development requirements to be considered. The following sustainable development requirements formed a key part of this project:

(i) That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied; and

(vii) That negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented are minimised and remedied.

- Section 2(4)(d) refer to the equitable access to services to meet basic human needs:

Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.

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 No. 107 of 1998 as amended.	NEMA gives effect to Section 24 of the Constitution and in this respect, of particular importance is NEMA's injunction that the interpretation of any law concerned with the protection and management of the environment must be guided by its principles. At the heart of these is the principle of 'sustainable development'.	National & Provincial	27 November 1998
Environmental Impact Assessment Regulations, 4 December 2014	The proposed powerlines triggers activities 11 and 19 of Regulation 983	National & Provincial	4 December 2014
National Water Act (Act 36 of 1998)	The proposed powerline will traverse the Kuruman River. Each pole will be planted at a depth ±1.8 metres with 0.93m^3 of soil being removed. The construction of poles within the riparian or the 1:100 floodline area will trigger activities 21(c) and (i) in terms of Section 21 of the National Water Act.	National	20 August 1998

The Constitution of South Africa (No 108 of 1996)	Section 24 of the Constitutions Bill of Rights states that everyone has the right – (a) To an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that - (i) Prevent pollution and ecological degradation; (ii) Promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.	National	18 December 1996
National Heritage Resources Act (Act 25 of 1999)	The proposed length of the powerlines requires the need for a Heritage Impact Assessment in terms of Section 38 of the Heritage Resources Act.	National & Provincial	28 April 1999
National Forest Act (Act 84 of 1998)	There are protected trees on site which will have to be removed to make way for the proposed infrastructure.	Department of Agriculture, Forestry and Fisheries	30 October 1998
Notice of the List of Protected Tree Species Under The National Forests Act, 1998 (Act No 84 Of 1998)	There are protected trees on site which will have to be removed to make way for the proposed infrastructure.	Department of Agriculture, Forestry and Fisheries	16 September 2011
Northern Cape Nature Conservation Act (Act 9 of 2009)	The developer may also need a Flora Permit from the provincial DENCl should any natural indigenous, protected or specially protected plant species be removed or destroyed during the construction phase.	Department of Environment and Nature Conservation (DENC)	15 December 2009
The National Veld and Forest Act (Act 101 of 1998)	Section 12 of this Act renders firebreaks compulsory to landowners from whose land a veldfire may start, burn or spread. If it is determined that the land acquired for the proposed powerlines, may start, burn or spread a veldfire then it would be compulsory for Eskom to implement firebreaks.	Department of Agriculture, Forestry and Fisheries	27 November 1998
Nature and Environmental Conservation Ordinance (No. 19 of 1974)	Regulates various nature and environmental conservation aspects such as control animals,	DEDEAT	1974

	game and pollution. This ordinance regulates and prohibits the removal or killing of animal or game on site and regulates pollution activities on site.		
Electricity Regulations Act, 2006 (Act No. 4 of 2006) This act establishes a nationally regulatory framework for the electricity supply industry, and provides for licenses and registrations as the manner in which generation, transmission, distribution, reticulation, trading and the import and export of electricity are regulated. The erection of new electricity distribution infrastructure is thus regulated in terms of this act. NERSA 2006			
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	The Biodiversity Act provides for the management and protection of the country's biodiversity within the framework established by NEMA. It provides for the protection of species and ecosystems in need of protection, sustainable use of indigenous biological resources, and equity in bio-prospecting. Some Critical Biodiversity Areas and vulnerable and endangered ecosystems have been identified by the vegetation specialist in the study site.	DEA	2004
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983)	In terms of section 6 of the Act, the Minister may prescribe control measures with which all land users have to comply. The control measure may relate to the regulating of the flow pattern of run-off water, the control of weeds and invader plants, and the restoration or reclamation of eroded land or land which is otherwise disturbed or denuded. This act will regulate construction activities to prevent the spreading of invasive species and to ensure successful rehabilitation of the receiving environment.	DEA	1983

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES X	NO
If YES, what estimated quantity will be produced per month?	Minimal	

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

General Waste Skips and containers for recyclable waste will be kept in designated storage areas, preferably within the boundaries of the construction camp. Waste will be sorted on site. Recyclable waste will be sent to a reputable recycling company. The remainder of the waste will be transported to a licensed general landfill facility in Kuruman or Kathu licensed municipal landfill sites for disposal.

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

At the local municipal landfill sites.

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

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

Not Applicable

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

The Kathu Municipal Landfill Site (G:M:B-), or the Kuruman Municipal Landfill Site (G:M:B-).

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

Not Applicable

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 X

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 X

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 X
If YES, what estimated quantity will be produced per month?		m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO

	X

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

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

Temporary chemical toilets will be installed during the construction phase. These toilets will be serviced regularly by the service provider. The appointed contractor will select a service provider.

If YES, provide the particulars of the facility:

Facility name:	[redacted]
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:

Not Applicable

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	NO X
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:

Not Applicable

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 X

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 X	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	NO X

Describe the noise in terms of type and level:

During the construction phase, noise will be limited to machinery and vehicles. It will be temporary in nature and will be associated with the following activities:

- Site preparation activities, such as site clearance.
- The establishment of the construction camp and storage yard.
- Earth-moving and stockpiling activities.
- Movement of materials, machinery and equipment.
- Machinery for the installation and stringing of towers.
- Site rehabilitation activities, such as the movement of stockpiled material, grading and earth scarification.

Construction-related noise will be restricted to normal working hours. However, noise impact is expected to be negligible due to the remote location of the study area, as well as due to existing mining activities which could already be contributing to noise impact in the study area.

13. WATER USE

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

Municipal	Water board	Groundwater	River, stream, dam or lake	Other	The activity will not use water
X		X			

During the construction phase water will be obtained from the landowners existing boreholes or water will be sourced from a municipal source using water tankers. The exact volume of water that will be required is not yet known.

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:	(not known) litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES X	NO

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

A Water Use Authorisation will be required for this project as pole construction will take place within an area regulated by the Department of Water Affairs, i.e. the 1:100 year floodline area of the riparian area of the Kuruman River. The Water Use Authorisation Application cannot be finalised before Environmental Authorisation is obtained, and the authorised preferred powerline route is known. Once the authorised preferred route is known, the Eskom Engineers will plan the exact powerline route and pole positions. A Specialist Walkdown Survey will then be required in areas where sensitive habitats/environments could occur in order to determine whether the selected pole positions would be acceptable, or whether poles should be moved to avoid sensitive areas. The Water Use License Application can the only be finalised and submitted

once the exact locations of the poles are known.

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:

Not Applicable

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): **0**

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
	X

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	Northern Cape
District Municipality	John Taolo Gaetsewe District Municipality.
Local Municipality	Joe Morolong Local Municipality
Ward Number(s)	Ward 4
Farm name and number	
Portion number	
SG Code	

Farm name and number	Portion number	SG Code
DRAKENSTEIN 264	RE/264	0000C04100000000264000001
DRAKENSTEIN 264	1/264	0000C04100000000264000010
N`CHWANING 267	1/267	0000C04100000000267000010
N`CHWANING 267	4/267	0000C04100000000267000040
N`CHWANING 267	6/267	0000C04100000000267000060
WESSELS 227	2/227	0000C04100000000227000020
WESSELS 227	1/227	0000C04100000000227000020
LEHATING 741	1/741	0000C04100000000741000010
BOERDRAAI No. 228	RE/228	0000C04100000000228000001
FARM No. 703	73/703	0000C04100000000703000730
MUKULU 265	RE/265	0000C04100000000265000001
N`CHWANING 267	9/267	0000C04100000000267000090
N`CHWANING 267	RE/267	0000C04100000000267000001
WESSELS 227	RE/227	0000C04100000000227000001
SANTOY No. 230	1/230	0000C04100000000230000010
SANTOY No. 230	2/230	0000C04100000000230000020
SANTOY No. 230	RE/230	0000C04100000000230000001
BERGHEIM No. 229	RE/229	0000C04100000000229000001

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:	Agricultural and Mining.

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

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

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

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
X						

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
X						

2. LOCATION IN LANDSCAPE

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

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

- *Dolomite was encountered at surface approx. 36 km east of investigation area. SANS documentation classifies "dolomite land" as land underlain by dolomite (from the Campbell Group) up to depth of 60 m.*
- *The study area incorporates the watercourse of the Kuruman River (regarded as a non-perennial watercourse with associated floodplain wetlands and riparian zones) within its northern section*
- *Investigation area is underlain by windblown sands, which area known to be dispersive*
- *Possible undermined land, and possible flooding after high rainfall events*
- *A dry river bed is encountered on the northern part of the investigation area*

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.

Summary of Aquatic Assessment

An Aquatic Assessment for the Lehating project was undertaken by Dr Martin Ferreira from Jeffares & Green (Pty) Ltd in November 2015. A copy of the Aquatic Assessment Report compiled by Dr Ferreira is attached to Appendix D of this Basic Assessment Report. A summary of the findings and recommendation is provided below. ***It should be noted that although Environmental Authorisation was already obtained for the construction of the Lehating Substation, Dr Ferreira still included the substation footprint in his Assessment in order to get a holistic view of the proposed impacts to Aquatic Habitats.***

Findings:

The study area is located near the town of Hotazel, in the Northern Cape. This project study area is located within the Lower Vaal Water Management Area (WMA) and within the D41M quaternary catchment. According to the National Freshwater Ecosystem Priority Area (NFEPA) database, the study area is considered a River FEPA (Freshwater Ecosystem Priority Area). River FEPAs achieve biodiversity targets for river ecosystems and threatened/near-threatened fish species, and were identified in rivers that are currently in a good condition (A or B ecological categories).

A desktop assessment undertaken for the proposed project indicates the possible presence of two wetlands. Both these wetlands were verified during a field survey and included a wetland flat (associated with the powerline construction) and a floodplain wetland, (associated with the Kuruman River and the construction of the new Substation).

The catchment associated with the various wetlands and rivers in the study area has already been transformed to a certain extent. The upper reaches of the Kuruman River have been altered by the increase in hardened surfaces due to the development of the town of Kuruman.

Informal settlements such as Batlharos, Maruping and Mamoratwe with associated infrastructure (roads and bridges) contribute to alterations in hydrology and possibly water quality in the upper reaches. There is erosion within the larger catchment, due to several roads that have been constructed and due to grazing livestock. All the above contributed to changes in vegetation and sediment availability within the catchment.

As a result, the hydrology, geomorphology and vegetation have been altered when compared to reference conditions. In addition to these already impacting factors the water quality of the wetlands could also potentially be altered during the construction and operation phases of the project. The risk of the potential impacts is low or very low and impacts can be generally easily mitigated. Mitigation measures have been suggested in the Aquatic Assessment Report. These a summarised below.

Assessment of Alternatives:

Three alternatives study corridors where investigated for the routing of the overhead powerline. Of these alternatives, Alternative 3 will be the preferred one from an aquatic resource perspective. The line can be placed anywhere within the corridor Alternative 3. Alternative 2 will potentially only affect the Kuruman River and its associated floodplains, while Alternatives 1 and 3 will potentially affect both the wetland flat and the Kuruman River and its associated floodplains. Alternative 2 however, will not be associated with any current infrastructure and all impacts related to this route will be fairly new. The impacts related to Alternatives 1 and 3 will largely be cumulative in nature as the route will follow existing infrastructure. As a result, both Alternatives 1 and 3 could be considered for the proposed project.

Mitigation and Management Measures:

The potential impacts on the receiving environment can be alleviated by applying certain mitigation measures. The functioning of any aquatic ecosystem is not dependent on a single component and changes to one aspect (such as hydrology) may ultimately cause changes in another (such as vegetation). Most importantly will be the construction of the powerlines and substation during the dry winter months when runoff will be minimal. In addition, wetlands must be spanned where possible and buffer areas must be maintained from the construction activities.

The mitigation and/or management measures include the following approaches:

- Construction should be undertaken in the dry season to minimise all potential impacts as assessed in the Aquatic Assessment Report,
- The powerline should span the wetland as far as practically possible;
- Hazardous material and chemicals should not be kept or handled within wetland areas. Hazardous substances must be kept in a demarcated area on an impervious surface. Any spillages from hazardous material should be cleaned immediately and transported to a landfill site that accepts hazardous material,
- Cement and other material must be mixed in a demarcated area and not in wetland or buffer zones,
- Buffer zones must be maintained at all time to ensure the protection of the aquatic resources,
- Movement of contractors and vehicles within wetland and riparian areas should be avoided to ensure that compaction of sediment and water pollution will not take place,
- Contractors should not be allowed to collect water or fish from the wetlands,
- Waste bins should be provided to ensure that litter isn't dumped in the wetlands or riparian zones,
- Vehicles should be serviced on a regular basis to avoid leaks and spills,
- Where possible, existing roads and access points should be utilised,

- Solid waste should be removed on a regular basis and chemical toilets should be provided and should be serviced on a regular basis,
- Any contractor's camps should not be placed within or near any wetlands and associated buffer zones,
- Topsoil and excavated soil must not be placed within the wetland or buffer areas,
- The removal of vegetation must be kept to a minimum where possible. The time that soil is exposed must be limited and re-vegetation or another covering method must be applied during the construction and post construction phase,
- Re-vegetation must be completed using the appropriate endemic plants. Where possible, the vegetation must be removed intact to ensure that it can be replanted again during rehabilitation,
- Where vegetation is removed, the compaction of wetland soils must be minimised to avoid an increase in surface runoff speeds,
- The establishment of exotic plants must be avoided,
- Where possible the area where construction will take place should be demarcated. Demarcation of the construction areas will ensure that only the required area is cleared of vegetation,
- Erosion protection must be used in all areas where erosion may occur,
- If any access roads will be constructed a stormwater management plan must be developed for the construction phase;
- For access roads, stormwater must not be concentrated at a single outlet and should be allowed to diffuse over a large area
- A rehabilitation plan should be developed; only if the construction of the powerline will cause the removal of vegetation and soils in the wetland flat, and
- A monitoring plan must be developed and implemented for the wetlands. Ideally this plan must cover the site laydown, construction and post-construction periods.

Summary of Floodline Assessment

A Floodline Assessment was undertaken by Jeffares & Green (Pty) Ltd in July 2015, and amendments to the Report was made in January 2016. A copy of the Final Floodline Assessment Report is attached to Appendix D of this Basic Assessment Report. A summary of the findings made in this Report is provided below:

Findings:
A floodline study was undertaken for a section of the Kuruman River in the vicinity of the proposed Klipkop-Lehating 132 kV Double Circuit Chickadee powerline. The study area is located approximately 12 km north-west of Hotazel, Northern Cape Province. The 1:20, 1:50 and 1:100 year return period design flood peak discharge values were calculated for the Kuruman River using the Unit Hydrograph Method. The extents of the corresponding floodlines were determined through hydraulic modelling using the HEC-RAS model. This model provided high water flood levels associated with the calculated design flood peak discharge values. The resultant floodlines where plotted using GIS. The results indicated that the 1:20, 1:50 and 1:100 year floodlines range from approximately 217 m (1:20 year flood) wide to 456 m (1:100 year flood) wide in the vicinity of the development site. The floodline results indicated that portions of the proposed powerline alternative routes fall within the delineated floodlines. This is expected for the reason that the three proposed alignments cross the Kuruman River.

Assessment of Alternatives:
As expected, the alignments of the five alternatives are inundated. There are no significant differences between the inundation extents of Alternatives 1, 3 and 3B. The inundation extent of the Alternative 2 and 3A appears to be somewhat less by comparison. This is thought to be as a result of the reduced length of the alignment through the Kuruman River (i.e. the orientation of the alignments with respect to the Kuruman River). It is understood that Eskom's preferred route is Alternative 3B. Based on the findings of the study, it is thought that there will be no significant limitations should this Alternative be selected for the project's future development. However, consideration of the limitations associated with the simulated extents of the 1:20, 1:50 and 1:100 year design flood events should be made.

The specialist provided the following statement in his Report:

'It should be noted that the floodlines presented in this study are based on a DEM with a resolution of 30 metres. The level of detail available using spatial data of this resolution is limited and the resultant floodlines are therefore considered high level. However, the high level floodline delineations are considered sufficient for the purposes of the construction of powerlines'.

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] X	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 X	Building or other structure X	Bare soil X

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

5. SURFACE WATER

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

Perennial River	YES	NO X	UNSURE
Non-Perennial River *The study area incorporates the watercourse of the Kuruman River (regarded as a non-perennial watercourse with associated floodplain wetlands and riparian zones) within its northern section.*	YES X	NO	UNSURE
Permanent Wetland	YES	NO X	UNSURE
Seasonal Wetland *The study area incorporates the watercourse of the Kuruman River (regarded as a non-perennial watercourse with associated floodplain wetlands and riparian zones) within its northern section.*	YES X	NO	UNSURE
Artificial Wetland	YES	NO X	UNSURE
Estuarine / Lagoonal wetland	YES	NO X	UNSURE

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

The study area incorporates the watercourse of the Kuruman River (regarded as a non-perennial watercourse with associated floodplain wetlands and riparian zones) within its northern section.

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 **X**	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station **H**
Medium density residential **X** *(Black Rock mining town)*	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential**A**	Church	Agriculture **X**
Retail commercial & warehousing	Old age home	River, stream or wetland **X**
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** **X**	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe) • Mining; • Private Aircraft Landing Strips

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:

Not Applicable

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

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

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

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 X	NO	Uncertain
Please refer to the summary below of the finding of the Heritage Impact Assessment which was undertaken by Dr J van Schalkwyk.			

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:

Summary of Heritage Impact Assessment

A Heritage Impact Assessment was undertaken by Dr Johnny van Schalkwyk in August 2015 for this proposed project. A copy of the Heritage Impact Assessment Report is attached to Appendix D of this Basic Assessment Report. A summary of the findings and recommendations made in this Report is provided below. ***It should be noted that although Environmental Authorisation was already obtained for the construction of the Lehating Substation, that Dr van Schalkwyk still included the substation footprint in his Assessment in order to get a holistic view of the proposed impacts to Cultural or Historical sites and resources.***

Findings and Recommendations:

The cultural landscape qualities of the study area, as well as the larger region, essentially consist of a single component. This is a sparsely populated rural area in which the human occupation is made up of a limited (known) pre-colonial element (Stone Age) as well as a much later colonial (farmer) component. It was only with the development of drilling rigs that sub-surface water sources could be accessed, allowing people to settle more permanently in the region. The impact analysis of cultural heritage resources under threat of the proposed development, are based on the present understanding of the development.

- Stone tools were identified in three different areas. All three identified sites are located inside the power line corridors. A breakdown of the location of these sites is provided in the table below. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz.
  - These sites are located inside the power line corridor, close to the area where the substation is to be developed. It is therefore likely that the construction of the power line substation would have an impact on them;
  - It is recommended that a qualified Stone Age archaeologist do a surface collection on the sites and that this material is then deposited in a national repository.

- Two farmsteads consisting of a main house and a number of outbuildings and farming related features were identified. It does not exhibit any remarkable construction features or stylistic characteristics. A breakdown of the location of these sites are provided in the table below.
  - Although these sites are located inside the power line corridor, it is unlikely that the construction of the power line would have an impact on them as it is clearly visible, still in use and fenced off;
  - No mitigation is required.

- Two different burial sites were identified to be located either inside or in close proximity of the power line corridors. A breakdown of the location of these sites are provided in the table below.
  - The sites plot on the edge of the power line corridor or just inside it. It would therefore be possible to avoid it and retain it in its original location.
  - The burial sites should be avoided by leaving buffer areas of at least 10m on all sides. The sites should also be fenced off with danger tape during construction of the power line. If that is not possible, the graves must be relocated after the proper procedure has been followed.

A breakdown of the features described above are provided in the Table below. A map showing the location of these features are attached to Appendix A of this Basic Assessment Report.

Period / Age	Site Ref	Description	S_DMS	E_DMS	Alternatives Affected by this Site
Stone Age	LSA 1	Small area (5 x 5 m) where Later Stone Age (LSA) material is eroding out. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz	27°2'24.612"S	22°51'12.816"E	Alternatives 1, 2 and 3
	LSA 2	Small area (10 x 10m) where LSA material is eroding out. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz.	27°2'30.156"S	22°51'12.816"E	Alternatives 1, 2 and 3
	LSA 3	Small area where LSA material is eroding out. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz.	27°2'56.652"S	22°51'27.864"E	Alternatives 1 and 3
Historic period	BS 1	A large burial place with c. 60 graves. Apparently, most of the graves are of Black mine workers that died while working at the mine. All are marked with stone cairns, except one that has a date of 8/07/1974. Currently the site is fenced off.	27°7'28.704"S	22°49'45.912"E	Along the edge of Alternatives 2 and 3
	FS 1	A farmstead consisting of a main house and a number of outbuildings and farming related features. It does not exhibit any remarkable construction features or stylistic characteristics. Although it is difficult to date this structure, it is anticipated that it must be 60 years old or very close to that.	27°6'43.200"S	22°49'47.712"E	Alternatives 2 and 3

	FS 2	A farmstead consisting of a main house and a number of outbuildings and farming related features. It does not exhibit any remarkable construction features or stylistic characteristics. Although it is difficult to date this structure, it is anticipated that it must be 60 years old or very close to that.	27°2'58.668"S	22°51' 33.156"E	Alternatives 1 and 3
	BS 2	Informal burial place with three graves of the Lombard and Wiid families, dating to 1932. Currently the site is fenced off.	27°2'56.652"S	22°51'27.864"E	Alternatives 1 and 3

Additional Recommended Management Measures:

- Known sites should be clearly marked in order that they can be avoided during construction activities;
- The contractors and workers should be notified that archaeological sites might be exposed during the construction work;
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible;
- All discoveries shall be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

In order to achieve the above, the specialist recommend the following:

- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.
- Known sites should be located and isolated, e.g. by fencing them off. All residents and their visitors should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

Conclusion:

Based on the findings of the Heritage Impact Assessment, the specialist indicated that the eastern corridor (Alternative 3) would be the preferred choice for powerline construction, although the western corridor (Alternative 2) can also be used, on condition of acceptance of the proposed mitigation measures. The specialist also recommended that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

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

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

The Heritage Specialist recommended that a qualified Stone Age archaeologist do a surface collection on the sites where stone tools were found and that this material is then deposited in a national repository. The archaeologist will determine whether a permit is required.

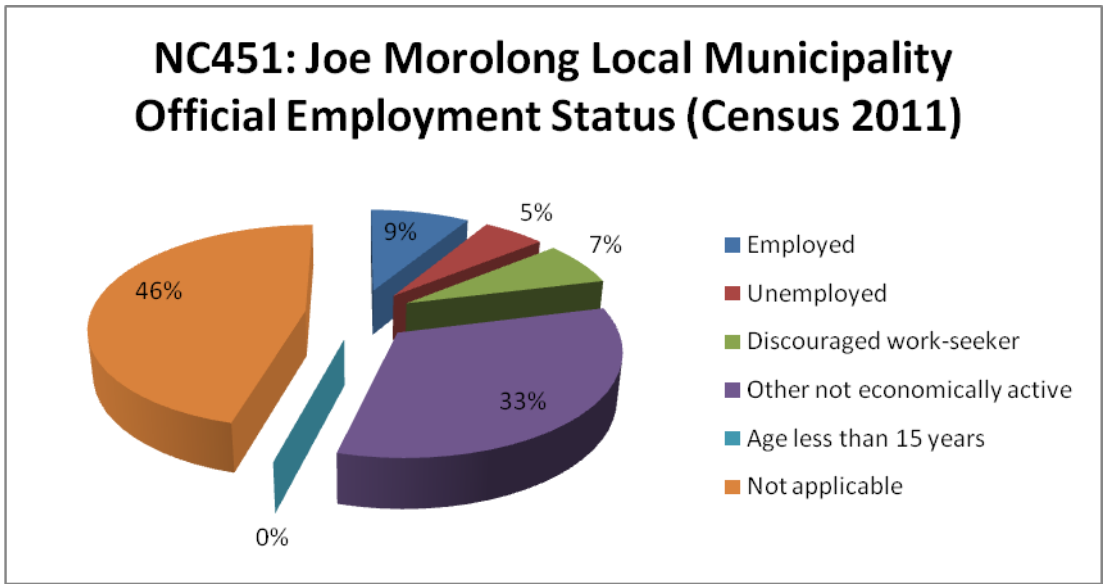
8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

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

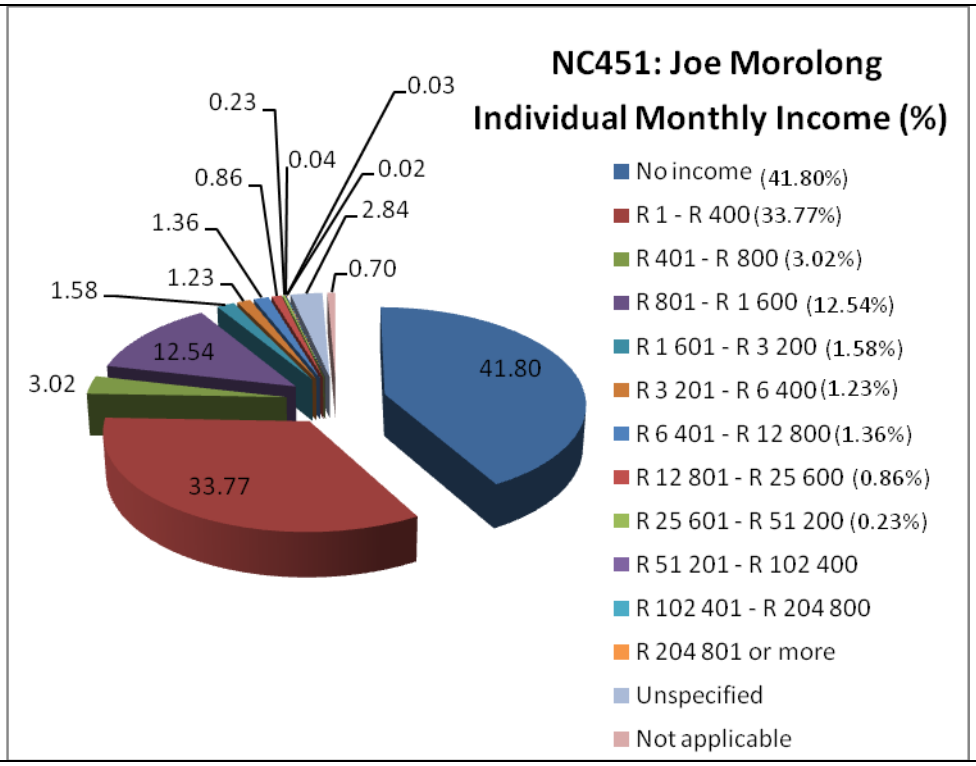
Level of unemployment:

Only 9% of the economically active individuals within the Joe Morolong Local Municipality were employed in 2011, as per the data obtained from the Statistics South Africa Superweb site (http://interactive.statssa.gov.za/superweb/login.do). A breakdown of the employment status for the Joe Morolong Local Municipality is provided in the chart below.



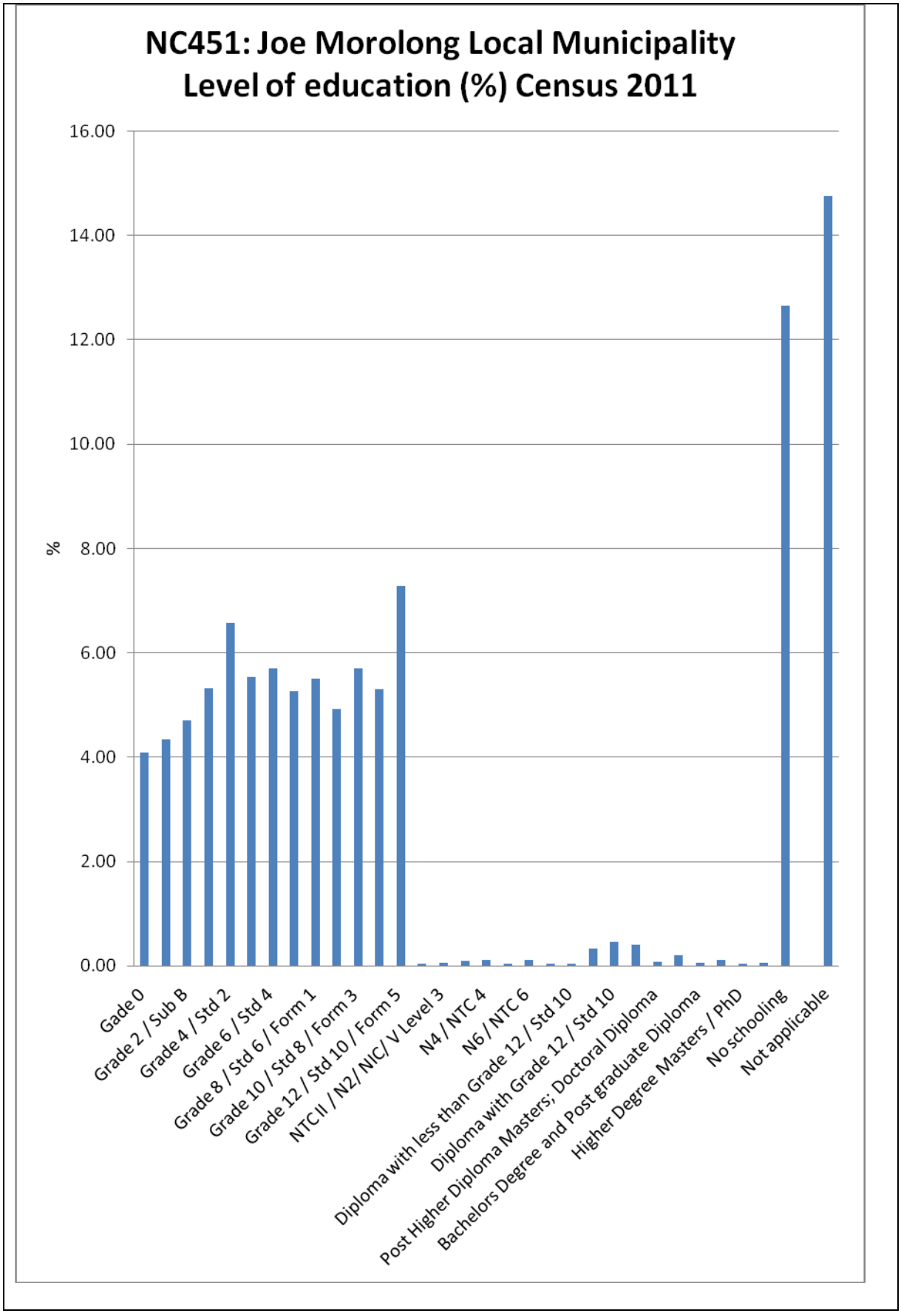
Economic profile of local municipality:

A breakdown of the Individual Monthly Income for the Joe Morolong Local Municipality, as per the 2011 census data obtained from the Statistics South Africa Superweb site (http://interactive.statssa.gov.za/superweb/login.do) is provided in the chart below. In terms of this information, approximately 94% of the total population of the Local Municipality earned less than R6,400.00 per month during the 2011 census survey.



Level of education:

A breakdown of the level of education documented for the Joe Morolong Local Municipality during the 2011 Census Survey is provided in the chart below (data obtained from the Statistics South Africa Superweb site (http://interactive.statssa.gov.za/superweb/login.do). In terms of this information, 12.66% of the total population had no Schooling during 2011, and 1.76% had a higher education.


NC451: Joe Morolong Local Municipality
Level of education (%) Census 2011
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
%
Gade 0
Grade 2 / Sub B
Grade 4 / Std 2
Grade 6 / Std 4
Grade 8 / Std 6 / Form 1
Grade 10 / Std 8 / Form 3
Grade 12 / Std 10 / Form 5
NTC II / N2/ NIC/ V Level 3
N4 / NTC 4
N6 / NTC 6
Diploma with less than Grade 12 / Std 10
Diploma with Grade 12 / Std 10
Post Higher Diploma Masters; Doctoral Diploma
Bachelors Degree and Post graduate Diploma
Higher Degree Masters / PhD
No schooling
Not applicable

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 56,359,606.52	
What is the expected yearly income that will be generated by or as a result of the activity?	This can only be established once in operation	
Will the activity contribute to service infrastructure?	YES X	NO
Is the activity a public amenity?	YES	NO X
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	Eskom does an open tender to employ suitable contractors to carry out the construction. Contractors are required to employ local unskilled labourers for non-specialized work.	
What is the expected value of the employment opportunities during the development and construction phase?	This can only be established once the contractor is appointed	
What percentage of this will accrue to previously disadvantaged individuals?	>/= 90 %	
How many permanent new employment opportunities will be created during the operational phase of the activity?	None. Eskom will maintain the powerline once constructed	
What is the expected current value of the employment opportunities during the first 10 years?	It is not known yet	
What percentage of this will accrue to previously disadvantaged individuals?	It is not known yet	

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)

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) X	No Natural Area Remaining (NNR)	According to the Ecological Assessment which was undertaken by Mr Mathew Ross from Enviross, the footprint of the proposed development activities is associated with two main vegetation types, namely *Kathu Bushveld* and *Southern Kalahari Mekgacha. Kathu Bushveld* is considered to be Least threatened and falls within the Eastern Kalahari Bushveld bioregion and *Savanna* biome (Mucina & Rutherford, 2006). The proposed Lehating Substation site falls on the outskirts of *Southern Kalahari Mekgacha* which is also considered to be Least Threatened and falls within the Inland Saline vegetation bioregion, which falls within the Azonal Inland Saline vegetation bioregion (the floodplain areas of the Kuruman River). The northern region of the proposed development site seems to fall within a transitional zone between various vegetation types, and shares features with the adjacent-located Gordonia Duneveld as well. Some transformation of the vegetation structures has taken place due to farming infrastructure and cattle activities within the northern and central areas. Limited accessibility to water is largely the limiting factor to development within the area, which has also limited the agricultural potential. This means that natural habitat has been retained over large areas. In terms of the South African National Biodiversity Institute's (SANBI) Biodiversity information for the Joe Morolong Local Municipality, there are no Critical Biodiversity Areas or Ecological Support Areas within the study area. Some protected tree species occur within the study area as well as indigenous vegetation which could be of conservational concern or which could be specially protected species.

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	20%	According to the Terrestrial Biodiversity Ecological & Impact Survey that was undertaken by Enviross, vast expanses of open habitat remain within the region. Limited accessibility to water is largely the limiting factor to development within the area, which has also limited the agricultural potential. This means that natural habitat has been retained over large areas.
Near Natural (includes areas with low to moderate level of alien invasive	40%	

plants)		
Degraded (includes areas heavily invaded by alien plants)	10%	According to the Terrestrial Biodiversity Ecological & Impact Survey undertaken by Enviross, the wetland areas of the Kuruman River are largely dominated by the invasive exotic tree species, namely *Prosopis glandulosa*. This is largely due to these areas being subject to greater grazing pressure and therefore suffer the effects of trampling more than the surrounding area.
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	30%	According to the Terrestrial Biodiversity Ecological & Impact Survey undertaken by Enviross, some transformation of the vegetation structures has taken place due to farming infrastructure and cattle activities within the northern and central areas.

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 Endangered Vulnerable	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Least Threatened **X**	YES **X**	NO	UNSURE	YES	NO	YES	NO

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 Biodiversity Ecological & Impact Survey was undertaken by Mr Mathew Ross from Enviross for this proposed project. A copy of the Report compiled by Enviross is attached to Appendix D of this Basic Assessment Report. A summary of the findings and recommendations is provided below. ***It should be noted that although Environmental Authorisation was already obtained for the construction of the Lehating Substation, that Mr Ross still included the substation footprint in his Assessment in order to get a holistic view of the proposed impacts to biodiversity.***

- **Summary of Findings:**

The survey area falls within an area utilised for cattle farming in the northern parts, and remains largely undeveloped. Current land use within the southern areas include urban and mining establishments and therefore disturbance factors are more prevalent.

An impact significance rating was undertaken and all impacts were found to be significantly reduced through implementation of mitigation measures. Impacts were noted to be rated from medium through to low prior to mitigation and low after mitigation.

Following completion of the desktop review, field survey and impact evaluations, the following general conclusions was offered by the Specialist:

- The survey area generally does not suffer a high degree of transformation at present, has retained a high

present ecological state (PES) and incorporates habitat units that are regarded as inherently ecologically sensitive that support a wide diversity of fauna and flora;
- The proposed development activities will result in limited transformation of the habitat;
- No RDL faunal or floral features were noted during the field survey, but individuals of protected tree species will be impacted by the proposed development;
- Impact evaluations showed that the impacts range from medium through to low significance ratings due to the various aspects pertaining to the project. Some impacts cannot be realistically mitigated for and aspects such as destruction of vegetation and habitat within areas directly related to the substation site as well as services associated with this site are an inevitable consequence of a development of this nature. Other impacts have been shown to be abated by implementation of mitigation measures to reduce their overall significance;
- The overall cumulative impact of the development is considered *low*; and
- A Walkdown Survey of the final powerline route should be undertaken by a suitably qualified Ecologist in order to identify species of conservational significance and especially protected species. A permit for the removal of these species must then be submitted to the Northern Cape Department of Environment and Nature Conservation.

- **General Study Area and Floral Features**

The study area is located to the nearby northwest of Hotazel in the Northern Cape Province. The survey area is regarded as having an arid climate. Dominant land use within the region is cattle and sheep farming, but mining forms the prominent land use in isolated areas and urban centres (Hotazel and Black Rock) have been established as support areas for prominent mining enterprises. Vast expanses of open habitat remain within the region. Limited accessibility to water is largely the limiting factor to development within the area, which has also limited the agricultural potential. This means that natural habitat has been retained over large areas.

The footprint of the proposed development activities is associated with two main vegetation types, namely *Kathu Bushveld* and *Southern Kalahari Mekgacha. Kathu Bushveld* is considered to be Least threatened and falls within the Eastern Kalahari Bushveld bioregion and *Savanna* biome (Mucina & Rutherford, 2006). The proposed Lehating Substation site falls on the outskirts of *Southern Kalahari Mekgacha* which is also considered to be Least Threatened and falls within the Inland Saline vegetation bioregion, which falls within the Azonal Inland Saline vegetation bioregion (the floodplain areas of the Kuruman River). The northern region of the proposed development site seems to fall within a transitional zone between various vegetation types, and shares features with the adjacent-located Gordonia Duneveld as well. Some transformation of the vegetation structures has taken place due to farming infrastructure and cattle activities within the northern and central areas. The wetland areas of the Kuruman River are largely dominated by the invasive exotic tree species, namely *Prosopis glandulosa*. This is largely due to these areas being subject to greater grazing pressure and therefore suffer the effects of trampling more than the surrounding area. This factor is considered the main driver to ecological change within the area. The southern areas have been transformed through urbanisation, mining and road construction. Much natural habitat remains, however, both locally and regionally.

The survey area falls within the Griqualand West Centre of Plant Endemism (CoPE), which has a core area that coincides with surface outcrops of the Ghaap Group and Olifantshoek Supergroup of rocks. The outer boundaries of the floristic components are rather diffuse and spill over onto related substrates, especially alkaline ones rich in calcium. It is bordered in the east by the Harts River and in the west by the Asbestos and Kuruman Hills, and extends from the confluence of the Orange and Vaal Rivers, northwards to Vryburg. Topographically the eastern portion if dominated by a plateau and the western portion is hilly and mountainous and characterised by north-south trending ridges of the Korannaberg and Langberg. The altitude varies from 450 to 1250 m AMSL. Rainfall is erratic and varies from 250 to 450 mm per year and occurs in summer. The mean annual temperature is about 18°C, but can vary between below freezing in winter to 42°C in summer (van Wyk & Smith, 2001). It is a CoPE that is regarded as being particularly rich in plant diversity. Refer to Figure 4 of the Ecological Assessment Report which is attached to Appendix D of this Basic Assessment Report which shows the survey area and how it associates with the Griqualand West CoPE.

- **Floral species of conservational concern & protected species**

Floral species of conservational concern are categorised according to their conservation status. Red Data Listed (RDL) species are those classified as Critically Endangered (CE), Endangered (EN) or Vulnerable (VU). Species are regarded as being Orange Listed if they fall into the categories of Near Threatened (NT), Rare (Ra), Declining or Data Deficient (DD). Data Deficient species are further categorised into DDD (Data deficient – insufficiently known) or DDT (Data deficient – taxonomically problematic) (from SANBI POSA).

The desktop survey for protected, RDL and Orange listed floral species showed that no species of conservational concern occur within the Quarter Degree Square (QDS) grid 2722BB associated with the impact area pertaining to the proposed development [according to the latest available data from SANBI (2015)], but tree species that are nationally protected under the National Forests Act (Act No 84 of 1998) were identified during the field survey, namely Boscia albitrunca (SA Tree no 122), Vachellia (=Acacia) haematoxylon (SA Tree no 169) and Vachellia (=Acacia) erioloba (SA Tree no 168) that were relatively common within the survey area. The SANBI POSA (Plants of southern Africa: A checklist) database was utilised to determine the aforementioned.

It should be noted that a permit to remove or destroy protected species has to be sought from the national authority (DAFF) prior to the removal or destruction of these species. The Northern Cape Department of Agriculture, Forestry and Fisheries (DAFF) already provided formal comment on the project. Their comment is attached to Appendix D of the Basic Assessment Report. Protected species are not necessarily species of conservational concern, but have rather been protected from indiscriminate collection and destruction due to them being highly-valued for furniture production, infrastructure construction as well as ornamental use. Therefore, many of these trees have been removed or are heavily-utilized within the rural sectors, regardless of their national protection status.

It is estimated that approximately 5 *Vachellia erioloba* will have to be either removed or trimmed to accommodate the overhead power line and servitude maintenance area. Approximately 50 *Boscia albitrunca* individuals may be impacted by the proposed development, with approximately 20 individuals falling within the proposed Lehating Substation footprint area. The most significant impact will be to *Vachellia haematoxylon*, with approximately 300 being identified within the footprint area of the proposed Lehating Substation that will be required to be removed, and it is estimated that this would be the scenario for any locality of the substation within the given survey area. This species is notably common though throughout the survey area in suitable habitat. The arid nature of the region means that vegetation is slow-growing and takes time to establish. This means that recruitment following site disturbances is a relatively slow process and that spontaneous self-rehabilitation of vegetation does not readily take place

Comments made by NC DAFF:

- The study site is known to contain protected tree species such as *Acacia (Vachellia) erioloba* and *Acacia (Vachellia) haematoxylon.* If any protected trees would be impacted on, the developed must apply and obtain a valid Forest Act License prior to construction of the powerline, but only after obtaining the Environmental Authorisation and shortly prior to construction.
- The developer must note that the Department would not grant a license for clearing of the whole servitude width. Usually a license allows for clearance of the vegetation directly under the powerline and up to 4m on either side. Where possible, slow growing protected trees should be avoided by deviating the line or going underground in the sections with high density protected trees.
- Where the powerline will cross the Kuruman River extra care should be taken at the river crossings, because of the higher density protected trees usually associated with ephemeral drainage lines.
- The developer may also need a Flora Permit from the provincial Department of Environment and Nature Conservation (DENC) should any natural indigenous, protected or specially protected plant species (under the Northern Cape Nature Conservation Act, Act 9 of 2009) be impacted on. The same applies to the TOPS listed or CITES listed plant species under the National Environmental Management Biodiversity Act (NEMBA).
- Protected trees such as large Camel thorns with Sociable Weaver *Philetairus socius* nests may not be disturbed without a valid Fauna Permit from the DENC.

Recommendations made by NC DAFF:

- If the project is authorised, this Department would recommend that it be for the route option that would have the least impact on slow growing protected trees. Three 1km wide corridor alternatives will be assessed, hence it should be possible to avoid area of high density protected trees.

Provincial legislature also provides a list of specially protected (Schedule 1) and protected (Schedule 2) floral species (NCNCA - Northern Cape Nature Conservation Act (Act 9 of 2009). It should be noted that the NCNCA regards all indigenous floral species as protected species (Schedule 2), where environmental authorisation will be required prior to removal or destruction of these species. Species of particular relevance that were observed within the scope of the survey site include those species already mentioned above as being of national importance (tree species mentioned above).

Based on the above it is recommended that a Walkdown Survey of the final powerline route should be undertaken by a suitably qualified Ecologist in order to identify species of conservational significance and specially protected species. A permit for the removal of these species must then be submitted to the Northern Cape Department of Environment and Nature Conservation.

- **Faunal Features (Mammals)**

It should be noted that the Northern Cape Nature Conservation Act (NCNCA) (Act 9 of 2009) has declared all faunal species that naturally occur within the province as protected. Only species that are considered vermin and exotic species are not included.

The assessment undertaken by Enviross found that there are no Red Data Listed (RDL) mammalian species pertaining to the survey area. There are only Orange listed (Near Threatened and Data deficient) species applicable to the project and that could be potentially negatively impacted by the proposed development activities. The mammalian species of conservational concern pertaining to the proposed project is presented in Table 1 in the Ecological Assessment Report, which is attached to Appendix D of this Basic Assessment Report. The arid climate means that the region is generally inhabited by habitat specialist species, but the vastness of the open habitat means that habitat destruction does not feature as a major driver of ecological change within the area, both locally as well as cumulatively. It should be noted, however, that the cumulative impact of habitat transformation within the greater region, especially through mining, needs to be considered and that natural open habitat is becoming an increasingly rare feature.

- **Faunal Features (Avifauna)**

There are 233 avifaunal species historically recorded from the QDS of 2722BB that includes the survey area (Gibbon, 2002). Of these, nine (3.9%) are regarded as RDL (threatened), being classified as *Vulnerable* and a further 9 (3.9%) are regarded as *Near Threatened*. Those species classified as *Vulnerable* are generally the larger raptors that are threatened through habitat destruction, poisoning (persecution from stock farmers) and collisions with overhead lines. It is therefore imperative that the main migratory routes be identified and this impact mitigated for. Birds would utilise the watercourses and associated greenbelt zones for migration and navigation purposes. By placing Bird Flappers along the overhead lines that cross any drainage lines or the river, as well as along any prominent rocky ridge areas, this impact can be abated.

The diversity of habitat types incorporated into QDS grids from where the complete list is sourced makes for an exaggerated species diversity count and therefore not all of these species would be expected to occur within regions pertaining to the survey area. Examples would be those species specific to the forests, marine shoreline, etc. habitat types. The RDL species list recorded from the region is presented in Table 3, page 22, of the Ecological Assessment Report, which is attached to Appendix D of this Basic Assessment Report. Those species that are known to have a preference to the habitat units presented within the region are thought to suffer potential negative impacts from the proposed development activities.

Further to this, the White Stork (*Ciconia ciconia*) is protected under the BONN Convention. This species is an annual migrator to the region and it is threatened due to it being significantly impacted by collisions with

overhead infrastructure and habitat destruction on a global scale.

Those species with a preference for water habitat (Wa) would only be able to utilise this habitat unit within the summer months of rainfall, when the Kuruman River carries persistence surface water. This is a strongly seasonal watercourse that dries every winter and therefore these species would seek this habitat unit elsewhere.

Further to this, there are a variety of non-RDL species that would also suffer undue negative impacts. The species that have a preference for the habitat units presented within the survey area and are thought to potentially be impacted by collisions within overhead lines are presented in Table 4, page 23, of the Ecological Assessment Report, attached to Appendix D of this Basic Assessment Report.

- **Reptiles**

Limited reference species lists are available for the quarter degree square area of 2722BB, and therefore the query was expanded to include the degree square regional area of 2722, where it was shown that 46 reptilian species have been recorded within a recent census of the area (Bates *et al.,* 2014; ADU [SARCA] 2015). None of the species recorded are regarded as being conservationally significant. The most common species within the region, as indicated by the largest number of observations from SARCA (2015) are *Trachylepis variegata* (Variegated skink), *Trachylepis spilogaster* (Kalahari tree skink), *Pedioplanis lineoocellata lineocellata* (Spotted sand lizard) and *Agama aculeata aculeata* (Common ground agama). Species observed during the field survey were *Trachylepis variegata* (Variegated skink), Puff adder (*Bitis arietans arietans*) and Common dwarf gecko (*Lagodactylus capensis capensis*). These are commonly-occurring and widely distributed species.

Reptilian species are largely dependent on habitat unit structures and prey abundance, which, in turn, also depends on general habitat unit structure and condition. Many reptilian species, together with a large proportion of their prey species, have been shown to be broadly tolerant to a variety of habitat types. The overall good ecological state of the habitat units associated with the survey area means that reptilian species particular to the habitat unit availability would be expected to occur in good abundance. The habitat type, offering a high level of refuge, further reiterates the expectation of good species diversity and abundance. The proposed development will have a limited impact on reptilian conservation within the area due to a limited footprint and the generally short-lived construction phase. One direct impact is thought to be the killing of snakes encountered by construction crews due to superstition and staff should be educated on the importance of reptilian conservation. Staff should be trained on the safe handling of snakes for relocation purposes should snakes be encountered within workspaces. The full potential reptilian species list is presented in Appendix A, Table 14, of the Ecological Assessment Report, attached to Appendix D of this Basic Assessment Report.

- **Amphibians**

Habitat loss, in all its many forms, was cited as the most pervasive threat facing amphibians and was listed for all species during the analysis for the frog atlas project (Minter, *et al.*, 2004) and therefore habitat destruction should be limited to the absolute minimum throughout the survey area. This is especially pertinent to riparian and wetland habitat units. Amphibians have been shown to be steadily declining as a world-wide phenomenon. Care should therefore be practised in conserving all suitable habitats to aid in abating declines in amphibian numbers and diversity.

Again, the search parameter was extended to include the entire 2722-degree square area as opposed to only the QDS of 2722BB as amphibian species diversity was shown to be relatively low. Only eight species have been recorded from the region within the recent census, none of which are of conservation significance (Minter *et al*., 2004; du Preez & Carruthers, 2009 and ADU, 2015). The general lack of persistent surface water within the area limits the occurrence of amphibians as this is a requirement for breeding habitat. The full potential amphibian species diversity list recorded from the region is presented in Appendix A, Table15, of the Ecological Assessment Report, attached to Appendix D of this Basic Assessment Report.

No significant impacts are thought to be imposed on amphibian conservation within the region. The wetlands associated with the Kuruman River would be utilised seasonally by a variety of species and represents the only significant habitat feature to amphibians. The overhead power lines can span across the watercourse and associated riparian zones with little need to impact the associated habitat.

- **Invertebrates**

The invertebrate taxa that are of conservational concern include the Mygalomorph spiders, scorpions, certain butterfly (Lepidoptera) and dragonfly and damselfly (Odonata) species.

- **Butterflies**

There are 18 butterfly species recorded from the QDS region of 2722BB (ADU, 2015), none of which are of conservation concern. Habitat areas that remain important to butterfly conservation within the area are the riparian zones of the watercourses, but the natural grasslands (limited within the survey area), riparian and rocky ridge habitats. These habitat units coincide with the areas identified as being of high ecological sensitivity.

- **Mygalomorph spiders**

Mygalomorph spiders as a taxon, includes various families of trapdoor and baboon spiders. This is a poorly-studied taxon nationally, making accurate distribution data difficult to source. The family of Theraphosidae (baboon spiders) are a nationally protected taxa under CITES, prohibiting collection, trade and destruction without the applicable permits (subject also to provincial legislation).

Mygalomorphs are all generally sedentary in habit. The females establish variations of burrows where they generally remain throughout their lifetime. Males, especially during mating seasons, are generally free-roaming. The females are therefore especially vulnerable to habitat destruction and transformations as disturbances that destroy burrows often destroy the inhabitant, or, if displaced from the burrow, the females have difficulty in establishing new burrows or finding adequate refugia. Conservation of this taxon therefore relies on intact habitat functionality.

Mygalomorph spiders inhabit virtually all the habitat types that are represented throughout the survey region, including transformed habitat, although none were observed during the field survey. General habitat conservation is therefore the most viable mitigation measure to abate undue impacts on these species – as is applicable to all biodiversity within the region.

- **Conclusion and Recommendations:**

Following completion of the desktop review, field survey and impact evaluations, the following general conclusions were offered by the Specialist:

- The survey area generally does not suffer a high degree of transformation at present, has retained a high present ecological state (PES) and incorporates habitat units that are regarded as inherently ecologically sensitive that support a wide diversity of fauna and flora;
- The proposed development activities will result in limited transformation of the habitat;
- No RDL faunal or floral features were noted during the field survey, but individuals of protected tree species will be impacted by the proposed development;
- Impact evaluations showed that the impacts range from medium through to low significance ratings due to the various aspects pertaining to the project. Some impacts cannot be realistically mitigated for and aspects such as destruction of vegetation and habitat within areas directly related to the substation site as well as services associated with this site are an inevitable consequence of a development of this nature. Other impacts have been shown to be abated by implementation of mitigation measures to reduce their overall significance;
- The analysis of the preferred alternatives showed that the overall Alternative 3 was proposed and, after presentation of the two further deviations of Alternative 3, it was found that Alternative 3B is preferred. Therefore the Study Corridor of Alternative 3 is preferred.
- The overall cumulative impact of the development is considered low.

The specialist provided the following breakdown on the assessment of the three route alternatives, and based on the findings and impact assessment undertaken, the specialist recommended route Alternative 3 be selected as the preferred route.

Alternative	Advantages	Disadvantages	Preference*
Alternative 1	Shortest route and therefore has the smallest overall footprint	Moves through some areas where no comparable infrastructure exists	3
Alternative 2	Relatively shorter route	Moves through some areas where no comparable infrastructure exists	2
Alternative 3	Remains associated with existing infrastructure of equal or greater stature	Relatively longer route	1
Alt 3 deviation B	Falls in line with the existing preferred option of Alt 3 and is also the shortest route therefore having the smallest overall footprint area.	-	1

Preference: 1=Preferred; 2=Less preferred; 3=Not preferred.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Kalahari Bulletin	
Date published	28 January 2016	
Site notice position	**Latitude**	**Longitude**
	Please note that due to the remote location of the project, site notices will not be placed. The Farmer's Union and all affected landowners were directly contacted.	
Date placed	***Please note that due to the remote location of the project, site notices will not be placed. The Farmer's Union and all affected landowners were directly contacted.***	

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.

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

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
Marina Schoeman Bonolo Lekwa Andre Venter	Assmang: Blackrock Nchwaning & Gloria Mines	Tel: 053 751 5555 marinas@brmo.co.za bonolol@brmo.co.za andreve@brmo.co.za
Theresa Burger	BHP Billiton: Wessels Myn (South 32)	Tel: 053 742 2566
Lizell Stroh Obstacle Specialist	Civil Aviation PANS-OPS (Procedures for Air navigation Services – Aircraft Operations)	Tel: +27 11 545 1232 Fax: +27 011 545 1282 Mobile: +27 83 461 6660 | Email: strohl@caa.co.za
Deon Hoon	Lehating Farmers Union	voorsitter@agrikur.co.za
Ms Kokoane shuphing Cllr for Ward 4	Joe Morolong Local Municipality Ward Councillor	076 411 8956 (Speakers Office: 053-773-9300)
Mogran Griffiths	WESSA	Tel (041) 585 9606/585 1157 Morgan.griffiths@wessa.co.za
Simon Gear	Bird Life South Africa	Tel: +27 (0) 11 789 1122 simon.gear@birdlife.org.za

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

Summary of main issues raised by I&APs	Summary of response from EAP
During the Public Participation Phase, Ntsimbintle Mining / Tshipi é Ntle (hereafter referred to as Ntsimbintle) contacted Jeffares & Green and mentioned that they are proposing new mining activities within the Alternative 3 study corridor. Ntsimbintle indicated that the Farm Wessels 227 used to belong to Samancor. The Farm Wessels was then subdivided into Portions 1 and 2. The Remaining Extent of the Farm Wessels, as well as Portion 1, still belong to Samancor. Ntsimbintle now owns the surface rights of Portion 2 of the Farm Wessels, and Mr Willem Strauss has got grazing rights on Portion 2. Ntsimbintle indicated that the current proposed centre line of the Alternative 3 study corridor will interfere with their proposed mining activities.	A meeting was held with Mr Jeff Leader, from Ntsimbintle, on the 14th of March 2016 to determine how the proposed Alternative 3 centre line could be deviated in order to avoid the proposed mining areas. Two deviations for the current centre line were determined, deviation 3A and deviation 3B. Both deviations follow the current centre line of Alternative 3, from the Klipkop Substation for almost all the way. At approximately 2km south of the Lehating Substation, the deviations commence. All Specialist Assessments, as well as the impact assessment undertaken as part of this Basic Assessment process, revealed that study corridor Alternative 3 is the preferred alternative. As deviation 3A falls outside of the Alternative 3 study corridor, deviation 3A will not be considered. Alternative 3B falls within the Alternative 3 study corridor and is therefore a feasible alternative to consider. It should be noted that the Specialist Studies and impact assessment undertaken were based on the study corridors, and not the centre lines, as the exact location of the powerline within the study corridor will only be determined after Environmental Authorisation was obtained. Specialists were however asked to comment on deviation 3B to ensure that the powerline could be routed within corridor Alternative 3.

Proof of communication with all Landowners and Key Stakeholders is attached to Appendix E of this Basic Assessment Report.

The Draft Basic Assessment Report will be available for Commentary Authority and Public Review from the 10th of May 2016, until the 10th of June 2016. A copy of the Draft Report will be placed at the Hotazel Post Office which is situated on Boardman Road, Hotazel.

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:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal /Physical address
SAHRA NC	Phillip Hine			phine@sahra.org.za	
The Northern Cape Department of Environment and Nature Conservation	Mr Brian Fisher (Director of Environmental Impact Unit)	053 807 7430	053 831 3530	bfisher@ncpg.gov.za	Private Bag X6120 Kimberley 8301
Department of Water and Sanitation, Northern Cape Regional Office,Kimberly Office	Ms Dawn Le Fleur	Tel: 053 8367600		LeFleurD@dws.gov.za	28 Central Road Beaconsfields Kimberly 8301
Department of Mineral Resources	Ephesia Semenya & Raisibe Sekepane	053 807 1700 053 807 1787	053 832 5631	ephesia.semenya@dmr.gov.za raisibe.sekepane@dmr.gov.za	Private Bag X6093 Kimberley 8300 Perm Buliding 65 Phamile Mabija Street Kimberly 8301
Department of Agriculture, Forestry and Fisheries	Jacoline Mans Designation: Chief Forester (NFARegulation) Directorate: Forestry Management (Other Regions) Northern Cape Department of Agriculture, Forestry and Fisheries	054 338 5909	054 334 0030	JacolineMa@daff.gov.za	26 Olien Street Louivale Road Upington 8800
Northern Cape Department of Roads and Public Works	Mr Jaco Roelofse (Director: Roads,Planning and Design)	053 8392249/ 0538392200	053 839 2291 / 2117		P O Box 3132Kimberley8300

		Cell: 082 8538665			9-11 Stokroos Street Square Hill Park Kimberly 8301
Joe Morolong Local Municipality	Seneo Seleka Environmental Manager and Tshepo Bloom Municipal Manager and Oupa Phiri Town Planning Department	0537739300	053 773 9350	sseleka@webmail.co.za bloomt@joemorolong.gov.za	Private Bag X117Mothibistad 8474 320 Cardington Road Mothibistad Kuruman 8474
John Taolo Gaetsewe District Municipality	Klaas Teise and Billy Moseki	053 712 8700/20 053 712 1001	053 773 1758 053 712 2502	teisek@taologaetsewe.gov.za	4 Federale Mynbou Street Kuruman 8474

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.

Proof of communication with all organs of state is attached to Appendix E of this Basic Assessment Report.

The Northern Cape Department of Agriculture Forestry and Fisheries (NCDAFF) provided the following comments on the project. Their formal letter of comment is attached to Appendix E of this Basic Assessment Report:

Comments made by NCDAFF:

- The study site is known to contain protected tree species such as *Acacia (Vachellia) erioloba* and *Acacia (Vachellia) haematoxylon.* If any protected trees would be impacted on, the developed must apply and obtain a valid Forest Act License prior to construction of the powerline, but only after obtaining the Environmental Authorisation and shortly prior to construction.
- The developer must note that the Department would not grant a license for clearing of the whole servitude width. Usually a license allows for clearance of the vegetation directly under the powerline and up to 4m on either side. Where possible, slow growing protected trees should be avoided by deviating the line or going underground in the sections with high density protected trees.
- Where the powerline will cross the Kuruman River extra care should be taken at the river crossings, because of the higher density protected trees usually associated with ephemeral drainage lines.
- The developer may also need a Flora Permit from the provincial Department of Environment and Nature Conservation (DENC) should any natural indigenous, protected or specially protected plant species (under the Northern Cape Nature Conservation Act, Act 9 of 2009) be impacted on. The same applies to the TOPS listed or CITES listed plant species under the National Environmental Management Biodiversity Act (NEMBA).
- Protected trees such as large Camel thorns with Sociable Weaver *Philetairus socius* nests may not be disturbed without a valid Fauna Permit from the DENC.

Recommendations made by NCDAFF:

If the project is authorised, this Department would recommend that it be for the route option that would have the least impact on slow growing protected trees. Three 1km wide corridor alternatives will be assessed, hence it should be possible to avoid area of high density protected trees.

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.

Impact Assessment Methodology

The Environmental Impact Assessment Regulations, 2010, promulgated in terms of Section 24(5) of the National Environmental Management Act (Act 107 of 1998) prescribes requirements to be adhered to when undertaking impact assessments. Requirements for undertaking impact assessments for Basic Assessments and full Environmental Impact Assessments are outlined in the following sections of the EIA Regulations:

- Regulation 543, Section 22, 2(i) – Basic Assessment Impact Assessment Requirements: and
- Regulation 543, Section 32, 2(l) – Environmental Impact Assessment Requirements

In terms of these Regulations, the following should be considered when undertaking an impact assessment:

- A description and assessment of the significance of any environmental impacts, including –
  a. Cumulative impacts, that may occur as a result of the undertaking of the activity during project life cycle;
  b. Nature of the impact;
  c. Extent and Duration of Impact;
  d. The Probability of Impact Occurring;
  e. The degree to which the impact can be reversed;
  f. The degree to which the impact may cause irreplaceable loss of resources; and
  g. The degree to which the impact can be mitigated.

In terms of the above legislated requirements a standard impact assessment methodology was compiled. In order to compile the impact assessment methodology a review of existing impact assessment methodologies utilised by consultants in the field was undertaken. Furthermore, the following document as compiled by the former Department of Environmental Affairs and Tourism (DEAT) was utilised during the compilation for the impact assessment methodology:

- *DEAT (2004) Cumulative Effects Assessment, Integrated Environmental Management, Information Series 7, Department of Environmental Affairs and Tourism (DEAT), Pretoria*.

A description of the method for assessing the above criteria as well as the method for determining impact risks are provided in Sections A to I below.

A. Cumulative Impacts

Cumulative impacts can occur over different temporal and spatial scales by interacting, combining and compounding so that the overall effect often exceeds the simple sum of previous effects. The spatial scale can be local, regional or global, whilst the frequency or temporal scale includes past, present and future impacts on a specific environment or region.

Cumulative effects can simply be defined as the total impact that a series of developments, either present, past or future, will have on the environment within a specific region over a particular period of time.

Potential cumulative impacts on all elements of the receiving environment are addressed for all project phases (pre-construction, construction, operational and decommissioning), before and after implementation of mitigation measures.

B. Significance/Magnitude/Nature of Impacts

The significance or magnitude of an impact refers to the importance of an impact. When rating the extent of an impact, it is important to also rate the significance of an impact in order to determine the actual importance of an impact. For example, the size of an area affected by atmospheric pollution may be extremely large, but the significance of this effect is dependent on the concentration or level of pollution. If the concentration is great, the significance of the impact would be High or Very High, but if it is dilute it would be Very Low or Low.

The significance of impacts has been grouped into five classes, as outlined in the Table below

RATING		DESCRIPTION
5	VERY HIGH	Of the highest order possible within the bounds of impacts which could occur. In the case of adverse impacts: there is no possible mitigation and/or remedial activity which could offset the impact. In the case of beneficial impacts, there is no real alternative to achieving this benefit.
4	HIGH	Impact is of substantial order within the bounds of impacts, which could occur. In the case of adverse impacts: mitigation and/or remedial activity is feasible but difficult, expensive, time-consuming or some combination of these. In the case of beneficial impacts, other means of achieving this benefit are feasible but they are more difficult, expensive, time-consuming or some combination of these.
3	MODERATE	Impact is real but not substantial in relation to other impacts, which might take effect within the bounds of those which could occur. In the case of adverse impacts: mitigation and/or remedial activity are both feasible and fairly easily possible. In the case of beneficial impacts: other means of achieving this benefit are about equal in time, cost, effort, etc.
2	LOW	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts: mitigation and/or remedial activity is either easily achieved or little will be required, or both. In the case of beneficial impacts, alternative means for achieving this benefit are likely to be easier, cheaper, more effective, less time consuming, or some combination of these.
1	VERY LOW	Impact is negligible within the bounds of impacts which could occur. In the case of adverse impacts, almost no mitigation and/or remedial activity are needed, and any minor steps which might be needed are easy, cheap, and simple. In the case of beneficial impacts, alternative means are almost all likely to be better, in one or a number of ways, than this means of achieving the benefit. Three additional categories must also be used where relevant. They are in addition to the category represented on the scale, and if used, will replace the scale.
0	NO IMPACT	There is no impact at all – not even a very low impact on a party or system.

C. Extent of Impacts

The extent or spatial scale of an impact refers to whether an impact will occur at a local, regional, or global scale. The extent of impacts has been grouped into five classes, as outlined in the Table below.

RATING		DESCRIPTION
5	Global/National	The impact could/will occur on a national or global scale.
4	Regional/Provincial	The impact could/will occur at a Regional/Provincial Level
3	Local	The impact will affect an area up to 5 km from the proposed site.
2	Study Area	The impact will affect an area not exceeding the Boundary of the study site
1	Isolated Sites / proposed site	The impact will affect an area no bigger than the development footprint.

D. Duration of Impacts and Degree to which impacts can be reversed

The duration or temporal scale of an impact refers to actual impact timeframe, i.e. how long will impacts to the environment last. The reversibility of impacts is directly linked to the duration of impacts. For e.g. permanent impacts are irreversible impacts, whereas, incidental impacts are immediately reversible. The duration and reversibility of impacts has been grouped into five classes, as outlined in the Table below.

RATING		DESCRIPTION	REVERSIBILITY
1	Incidental	The impact will be limited to isolated incidences that are expected to occur very sporadically.	Immediately reversible
2	Short-term	The environmental impact identified will operate for the duration of the construction phase or a period of less than 5 years, whichever is the greater.	Quickly reversible
3	Medium term	The environmental impact identified will operate for the duration of life of the project.	Reversible over time
4	Long term	The environmental impact identified will operate beyond the life of the project.	Reversible over the long term
5	Permanent	The environmental impact will be permanent.	Irreversible, impact is permanent

E. Probability of Impact Occurring

The probability of an impact refers to the likelihood of an impact occurring. The probability of impacts has been grouped into five classes, as outlined in the Table below.

RATING	DESCRIPTION
1	Practically impossible that impact will occur
2	Unlikely that impact will occur
3	Impact could occur
4	Very Likely that impact will occur
5	Impact will occur or has already occurred

F. Degree to which the impact may cause irreplaceable loss of resources (Intensity or Severity of an Impact)

The degrees to which an impact may cause irreplaceable loss of resources are determined based on the outcome of the impact risk assessment. High risk impacts in sensitive areas are more likely to result in irreplaceable loss of resources compared to low risk impacts.

RATING	DESCRIPTION
High	Disturbance or pristine areas that have important conservation value. Destruction of rare or endangered species.
Medium	Disturbance of areas that have potential conservation value or rare of use as resources. Complete change in species occurrence or variety.
Low	Disturbance of degraded areas, which have little conservation value. Minor change is species occurrence or variety.

G. The degree to which the impact can be mitigated

The degree to which an impact can be mitigated are determined by comparing the impact risk class prior to implementation of mitigation measures to the impact risk class after implementation of mitigation measures. If for e.g. an impact risk class can be reduced from a high to very low, then it is likely that there is a high potential that an impact can be mitigated.

RATING	DESCRIPTION
High	High Potential to mitigate negative impacts to the level of insignificant effects.
Medium	Potential to mitigate negative impacts. However, the implementation of mitigation measures may still not prevent some negative effects.
Low	Little or no mechanism to mitigate negative impacts.

H. Degree of Certainty

As it is not possible to be 100% certain of all facts, a standard "degree of certainty" has been incorporated into this Impact Assessment Methodology to indicate the degree of the EAP's certainty regarding impact ratings.
As with all studies it is not possible to be 100% certain of all facts, and for this reason a standard "degree of certainty" scale will be used as outlined in the Table below. When very detailed specialist studies are available or have been undertaken as part of a project, impacts can be more accurately determined.

RATING	DESCRIPTION
Definite	More than 90% sure of a particular fact.
Probable	Between 70 and 90% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Between 40 and 70% sure of a particular fact or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact or the likelihood of an impact occurring.
Can't know	The consultant believes an assessment is not possible even with additional research.
Don't know	The consultant cannot, or is unwilling, to make an assessment given available information.

I. Quantitative Description of Impacts

In order to describe impacts in a quantitative manner in addition to the qualitative description given above, a rating scale of between 1 and 5 has been used for each of the assessment criteria. Thus the total value of the impact is described as the function of significance, spatial and duration scale as described below:

$$\text{Impact Risk} = \frac{(\text{Significance} + \text{Spatial} + \text{Duration})}{3} \times \frac{\text{Probability}}{5}$$

An example of how this rating scale is applied is shown below:

Impact	Significance	Spatial Scale	Duration Scale	Probability	Risk Rating
Impact to air quality – For e.g. construction vehicles travelling on areas where vegetation has been cleared could result in dust impact.	Low	Local	Medium-Term	Could Happen	1.6
	2	3	3	3	

Note: The significance, spatial and temporal scales are added to give a total of 8, that is divided by 3 to give a criteria rating of 2,67. The probability (3) is divided by 5 to give a probability rating of 0,6. The criteria rating of 2,67 is then multiplied by the probability rating (0,6) to give the final rating of 1,6.

The impact risk is classified according to 5 classes as described in the table below.

Impact Risk Classes:

Rating	Impact Class	Description
0.1-1.0	1	Very Low
1.1-2.0	2	Low
2.1-3.0	3	Moderate
3.1-4.0	4	High
4.1-5.0	5	Very High

Therefore with reference to the example used for air quality above, an impact rating of 1.6 will fall in the Impact Class 2, which will be considered to be a low impact.

1. PLANNING DESIGN AND CONSTRUCTION PHASE

Activity	Impact summary	Significance		Proposed mitigation
Geology	***Direct impacts:*** A Geotechnical investigation did not form part of the Basic Assessment Process for the proposed powerlines. In terms of the 1:250,000 Geological Maps of South Africa as obtained for the Council of Geosciences for grid 2722, the geology of the study area is comprised of the Kalahari Formation. The Kalahari Formation consist of various units and comprises the most extensive body of terrestrial sediments from the Cenozoic age in Southern Africa. The thickest parts of the Kalahari Formation appear to coincide with the occurrence of rocks of the Dwyka Group. The presence of faulting and graben formation in pre-Kalahari rocks also has a strong influence on the distribution of the Kalahari sediments (Partridge et al, 2006). The overall lithology and main stratigraphic units of the Kalahari Formation consists of the following: • The upper zone consisting of Dwyka tillite and laminate; • The main zone consisting of hematite, red shale and tillite; • The ccritical zone consisting of hausmannite making up Mamatwan-type ore and Wessels-type ore. It is within this layer that the manganese ore body is found; • The lower Zone consisting of hematite; and • The marginal zone consisting of Ongeluk lava. Soils found within areas where Khatu Bushveld occurs consists of Aeolian red sand deep (>1.2m) sandy soils of Hutton and Clovelly soils forms ((Mucina & Rutherford, 2006)[2] Mining activties within the study area already impacted on the Geology found in the study area. Foundations and footings for substation and monopole tower	**Alt 1**	**Low**	• Impact to geology is permanent. • The mitigation measures to be proposed in the Geotechnical Investigations Report should be included in the Final EMPR prior to the commencement of construction activities.
		Alt 2	**Low**	
		Alt 3	**Low**	

[2] Mucina, L & Rutherford, M.C (eds) 2006. The Vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria.

Activity	Impact summary	Significance		Proposed mitigation
	construction for the loop-in and loop-out lines may have an impact on the underlying geology depending on the soil depth on site, A Geotechnical Investigation will only be undertaken once an Environmental Authorisation has been received from DEA (*should the project be authorised*).			
	Indirect impacts: None Expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
Topography	***Direct impacts:*** The Topography of all three powerline study corridors is flat. Existing mining activities and roads already impacted on surface topography in the study area. Stockpiles during the construction phase will have an impact on surface topography. This impact will only occur in isolated sites and will be short terms impacts.	**Alt 1**	**Low**	The following mitigation measures for the control of stormwater should be implemented. • Proper temporary stormwater control measures to be implemented during the construction phase; • Temporary storm-water control measures should be installed in case a rain event should occur that has the potential to cause erosion of exposed soil; • Cut-off drains must be installed to facilitate the control of surface water runoff velocities; • A storm-water management plan should be compiled during the detailed engineering design phase to ensure that adequate storm-water management measures are incorporated into the overall design (this will be required for access roads only); • Storm-water control barriers should be used to divert surface water runoff into grassland buffers and not directly into the exposed
		Alt 2	**Low**	

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	**Low**	workings; • Stockpiles will be sited in areas demarcated for such purposes prior to the commencement of construction activities.
	Indirect impacts: None expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
Soils and Land Capability	***Direct impacts:*** Excavations for foundations and access road construction will leave the soils bare and exposed to wind and water erosion. During the construction phase, activities such as topsoil stripping, removal and stockpiling of subsoils, and soil compaction will impact negatively on soils and will consequently impact on the land capability of the study area. Materials lay down areas, as well as heavy vehicle and construction vehicle traffic on site will contribute to soil compaction. Areas compacted will lose their soil structure and fertility permanently.	**Alt 1**	**Moderate**	• Spread absorbent sand on areas where oil spills are likely to occur, • Oil-contaminated soils are to be removed to a contained storage area and bio-remediated or disposed of at a licensed facility • Ensure that soil is stockpiled in such a way as to prevent erosion by storm water. • Institute wind protection and implement a proper stormwater management plan during the construction phase to prevent soil erosion. • Drip trays shall also be provided in construction areas for stationary

Activity	Impact summary	Significance		Proposed mitigation
	Accidental hydrocarbons or oil leaks or spillages from construction vehicles or equipment may contaminate the soils. On site mixing of concrete could lead to soil contamination if no appropriate measures are put in place for the management of such activities. Furthermore, there is a risk of pollution by hydrocarbon spillages. Poor rehabilitation at the end of the construction phase could result in soil erosion. Alternative 1 is the shortest route alternative and will have the smallest overall footprint, however, this alternative moves through some areas where no comparable infrastructure exists. Alternative 2 is relatively shorter than Alternative 3, but also moves through some areas where no comparable infrastructure exists. Alternative 3 is the longest route, but remains associated with existing infrastructure of equal or greater stature. It is therefore anticipated that Alternative 3 will have lesser impact on soils of agricultural potential or undisturbed soils.	**Alt 2**	**Moderate**	plant and for "parked" plant. • Drip trays, sumps and bunds must be emptied regularly, especially before a known rain event and after a rain event, and the contents disposed of at a licensed disposal facility. • All vehicles and equipment shall be kept in good working order and serviced regularly. • Leaking equipment shall be repaired immediately or removed from the Site. • Ready mix cement will be used. Should any mixing of cement be needed, it should be done on a mixing tray and not the bare soil • Any cement spills must be cleaned up and disposed of appropriately • All areas disturbed during the construction phase should be rehabilitated as soon as construction activities are completed to prevent erosion issues.
		Alt 3	**Low**	
	Indirect impacts: None expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	

Activity	Impact summary	Significance		Proposed mitigation
Land Use	***Direct impacts:*** The land use of all three line study corridors are similar. The southern sections of the study corridors traverse mining land, mainly avoiding the actual mining footprint, the remainder of the study corridors traverse farm land. • Land use on all affected properties may be disrupted during the construction phase, but will revert back to its current state at the end of the construction phase. • Construction activities on mine properties may have an impact on mining operations, and may pose a health and safety risk; • Risk of livestock theft may increase during the construction phase as uncontrolled access to the farm land can occur; • Heavy machinery and vehicle traffic on the soil surface during and after construction can lead to soil compaction which impacts on soil fertility; • Excavation and construction activities pose a risk to livestock as they may become injured; • Construction activities could further have the following negative impacts on adjacent land uses: o Negative visual impact. However, due to the remote location of the study area, it is very unlikely this this impact will be significant; o Air quality or nuisance impact due to dust generation. However, due to the remote location of the study area and due to existing mining activities in the study area, it is very unlikely this this impact will be significant; o Damage to perimeter fencing of adjacent properties; o Damage to access roads to adjacent properties; o Traffic impact due to construction vehicles transporting materials, equipment and machinery. However, due to the remote location of the study area, it is very unlikely this this impact will be significant; and	**Alt 1**	**Moderate**	All issues and concerns communicated by the affected landowners must be captured in the Environmental Management Programme (EMP). All conditions requested by the landowners for e.g. access control during the construction phase, rehabilitation of impacted areas, repair of any damage caused to infrastructure such as fences due to construction activities, should be included in the Final EMP. All conditions and mitigation measures provided by Civil Aviation South Africa should be implemented and adhered to. The powerlines should be routed in such a way to not be an obstacle for aircrafts landing and taking off. All mitigation and monitoring measures provided by the Specialists in their Assessments, as incorporated into the EMP should be implemented.
		Alt 2	**Moderate**	

Activity	Impact summary	Significance		Proposed mitigation
	○ Noise impacts caused by construction vehicles and machinery. However, due to the remote location of the study area, it is very unlikely this this impact will be significant. There are three private aircraft landing strips within the study area. Based on the outcome of the Public Participation Phase to date, only one of these landing strips is still operational. This operational landing strip belongs to Assmang. The other two landings strips are situated on private farm land and are currently not operational. The proposed powerlines could interfere with the operations of these landing strips and make it unsafe to safely land aircrafts. Alternative 1 is the shortest route alternative and will have the smallest overall footprint, however, this alternative moves through some areas where no comparable infrastructure exists. Alternative 2 is relatively shorter than Alternative 3, but also moves through some areas where no comparable infrastructure exists. Alternative 3 is the longest route, but remains associated with existing infrastructure of equal or greater stature. It is therefore anticipated that Alternative 3 will have lesser impact on existing land uses as it will follow existing linear infrastructure.	**Alt 3**	**Low**	
	Indirect impacts: Heavy vehicles transporting construction materials to site will be traveling along roads where heavy mine vehicle traffic occur, and where private farm land is accessed from. These heavy vehicles and other construction vehicles may be pose a risk to local road users, and can be a safety hazard for pedestrians, and livestock crossing	**Alt 1**	**Moderate**	• Provide enough heavy vehicle storage areas in the proposed contractors camp; • Ensure that vehicle traffic which may obstruct traffic flow is scheduled outside of peak travelling time in the morning or afternoon;

Activity	Impact summary	Significance		Proposed mitigation
	roads.	**Alt 2**	**Moderate**	• Ensure that heavy / large load traffic is appropriately routed and appropriate safety precautions are taken to prohibit road collisions and traffic incidences; • Ensure that vehicle operators are suitably licensed, have had appropriate environmental and safety induction, are aware of specific site procedures, and are well rested and cognisant when operating heavy or unsafe vehicles / machinery; • Appoint traffic flagmen to regulate traffic where necessary; and • Create temporary pedestrian crossings with flagmen at the mines where pedestrian traffic may occur.
		Alt 3	**Moderate**	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	

Activity	Impact summary	Significance		Proposed mitigation
Surface Water and Groundwater, including Wetland Areas	***Direct impacts:*** • The proposed development may impact the hydrology of the wetlands associated with the development footprint. During construction, vegetation will be removed and in addition to the compaction of soils, this could increase the velocity of overland flows, which in turn can cause erosion of surface soils. The compaction of soils can also cause changes in the vertical drainage of water, potentially affecting groundwater inputs into water resources. It should be noted that the area has a very low mean annual rainfall and a very high evaporation rate. As a result, most of the wetlands and rivers in the catchment are largely ephemeral in nature, and should construction take place during the dry winter months, the impact on hydrology will be minimal. The construction of the powerline may potentially cause permanent loss of sediments within the wetland flat, but due to the small size of this wetland, this could be avoided by spanning the powerlines across the wetland. • The geomorphology of the wetlands could potentially be altered by the proposed development. The construction of the powerline will cause an increased availability of sediments in the immediate catchment of the wetlands, due to excavations and soil stockpiles. Increased sediment loads will have a larger impact on endorehic wetland (inward draining) system when compared to the floodplain wetlands of the Kuruman River, as the sediments will not be removed during wetter periods. • Habitat destruction will harm aquatic systems, and the removal of	**Alt 1**	**Low**	The mitigation and/or management measures include the following approaches: • Construction should be undertaken in the dry season to minimise all potential impacts as assessed in the Aquatic Assessment Report, • The powerline should span the wetland as far as practical; • Hazardous material and chemicals should not be kept or handled within wetland areas. Hazardous substances must be kept in a demarcated area on an impervious surface. Any spillages from hazardous material should be cleaned immediately and transported to a landfill site that accepts hazardous material, • Cement and other material must be mixed in a demarcated area and not in wetland or buffer zones, • Buffer zones must be maintained at all time to ensure the protection of the aquatic resources, • Movement of contractors and vehicles within wetland and riparian areas should be avoided to ensure that compaction of sediment and water pollution will not take place, • Contractors should not be allowed to collect water or fish from the wetlands, • Waste bins should be provided to ensure that litter isn't dumped in the wetlands or riparian zones, • Vehicles should be serviced on a regular basis to avoid leaks and spills, • Where possible, existing roads and access points should be utilised, • Solid waste should be removed on a regular basis and chemical toilets should be provided and should be serviced on a regular basis, • Any contractor's camps should not be placed within or near any

Activity	Impact summary	Significance		Proposed mitigation
	vegetation will change the soil quality and structure therefore altering the biota. The loss in diversity can be detrimental for water-course systems and further allows the introduction of alien invasive vegetation. Alien invasive vegetation are already found in high densities in the catchment and the exposure of topsoils, the import of soils for building purposes and the removal of indigenous vegetation could all contribute to the changes in the natural vegetation community. • Waste generated during the construction phase may enter the environment through surface water runoff i.e. litter or pollution such as hydrocarbons can be washed into aquatic systems, affecting those systems negatively; • Storm water flowing over the site will also mobilise loose sediments, which may enter the surface water environment affecting water quality; • Storm water can also be contaminated from batch plants, materials storage areas and by excess fertiliser from rehabilitated areas, etc.	**Alt 2**	**Low**	wetlands and associated buffer zones, • Topsoil and excavated soil must not be placed within the wetland or buffer areas, • The removal of vegetation must be kept to a minimum where possible. The time that soil is exposed must be limited and re-vegetation or another covering method must be applied during the construction and post construction phase, • Re-vegetation must be completed using the appropriate endemic plants. Where possible, the vegetation must be removed intact to ensure that it can be replanted again during rehabilitation, • Where vegetation is removed, the compaction of wetland soils must be minimised to avoid an increase in surface runoff speeds, • The establishment of exotic plants must be avoided, • Where possible the area where construction will take place should be demarcated. Demarcation of the construction areas will ensure that only the required area is cleared of vegetation, • Erosion protection must be used in all areas where erosion may occur, • If any access roads will be constructed a stormwater management plan must be developed for the construction phase; • For access roads, stormwater must not be concentrated at a single outlet and should be allowed to diffuse over a large area • A rehabilitation plan should be developed; only if the construction of the powerline will cause the removal of vegetation and soils in the wetland flat, and • A monitoring plan must be developed and implemented for the wetlands. Ideally this plan must cover the site laydown, construction and post-construction periods. • Waste is not to be buried on site; • Spill-sorb or similar type product must be used to absorb hydrocarbon spills in the event that such spills should occur.

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	**Low**	
	Indirect impacts: Contaminants and sediments could be carried downstream causing water quality impacts downstream of the construction site. Water contamination could have a negative impact on downstream aquatic fauna and flora.	**Alt 1**	**Low**	As above
		Alt 2	**Low**	
		Alt 3	**Low**	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	

Activity	Impact summary	Significance		Proposed mitigation
Fauna, Flora and Avifauna	***Direct impacts:*** **1) General habitat destruction** ***a)* Vegetation removal** • Vegetation will be directly impacted through complete removal within the infrastructure footprint area to accommodate the substation site, which will be maintained in perpetuity. Construction camps and storage yards will be rehabilitated upon completion of the construction phase. ***b)* Displacement of faunal species within the local area** • Vegetation removal and ongoing construction activities will displace faunal species, which will be displaced from the local area; • Following completion of the construction phase and subsequent ceasing of disturbance features and rehabilitation of the local site, faunal species will again return to the area. **c) Vegetation removal and landscaping to accommodate servitude roadway and tower footprints** • Vegetation will be directly impacted where excavations are needed for foundations at each tower footprint. This feature is not absolute and therefore the overall long term significance is regarded as low. **d) Construction of the towers (and supporting infrastructure – camps, yards, stockpiles, etc)** • Indiscriminate vegetation stripping within riparian areas where the greatest potential for the occurrence of RDL	**Alt 1**	**High**	A Walkdown Survey of the final powerline route should be undertaken by a suitably qualified Ecologist in order to identify species of conservational significance and specially protected species. A permit for the removal of these species must then be submitted to the Northern Cape Department of Environment and Nature Conservation and Department of Agriculture, Forestry and Fisheries **1) General habitat destruction** **a) Vegetation removal** • Limit the impact to the footprint and immediate support areas, especially within the areas associated with the proposed substation site; • Do not store building materials and excess stockpiled soils within riparian zones or within areas where natural vegetation will remain following completion of the construction phase of the development (i.e. retain impacts to areas where infrastructure is to be permanently established); • Avoid indiscriminate destruction of habitat. **b) Displacement of faunal species within the local area** • Limit the impact to the footprint and immediate support areas, especially within the areas associated with the proposed substation site; • Do not store building materials and excess stockpiled soils within riparian zones or within areas where natural vegetation will remain following completion of the construction phase of the development (i.e. retain impacts to areas where infrastructure is to be permanently established);

Activity	Impact summary	Significance		Proposed mitigation
	(or protected) faunal or floral species to occur leading to loss of those species. **e) Vegetation removal through soil stripping leading displacement of faunal species** • Vegetation removal and landscaping will transform habitat, making it unsuitable for inhabitation by faunal species, which will be displaced from the local area. ***2)*** **Direct impacts on RDL & protected species** ***a)*** **Direct impacts due to inclusion of RDL species in vegetation removal** • Protected tree species do occur within the scope of the survey area that will be impacted by the proposed development activities. Although not RDL, a permit to remove and/or destroy those individuals affected will have to be applied for through the relevant authorities. ***b)*** **RDL and protected species being destroyed during site infrastructure /services establishment** • Protected tree species do occur within the scope of the survey area that will be impacted by the proposed development activities. Although not RDL, a permit to remove and/or destroy those individuals affected will have to be applied for through the relevant authorities. Alternative 1 is the shortest route alternative and will have the smallest overall footprint, however, this alternative moves through some areas where no comparable infrastructure exists. Alternative 2 are relatively shorter than Alternative 3, but also move through some areas where no comparable infrastructure exists. Alternative 3 is the longest route, but remains associated with existing infrastructure of equal or greater stature. Alternative 3 will therefore have lesser impact on species of conservational significance and specially protected species.	**Alt 2**	**High**	• Avoid indiscriminate destruction of habitat. **c) Vegetation removal and landscaping to accommodate servitude roadway and tower footprints** • Limit the impact to the footprint and immediate support areas; • Storage of building materials and excess stockpiled soils to only be allowed in designated areas and not within areas where natural vegetation will remain following completion of the construction phase of the development; • Avoid indiscriminate destruction of habitat. **d) Construction of the towers (and supporting infrastructure – camps, yards, stockpiles, etc):** • Limit the impact to the footprint and immediate support areas; • Storage of building materials and excess stockpiled soils to only be allowed in designated areas and not within areas where natural vegetation will remain following completion of the construction phase of the development; • Avoid indiscriminate destruction of habitat. **e) Vegetation removal through soil stripping leading displacement of faunal species** • Limit the impact to the footprint and immediate support areas; • Do not store building materials and excess stockpiled soils within riparian zones or within areas where natural vegetation will remain following completion of the construction phase of the development; • Avoid indiscriminate destruction of habitat. **2) Direct impacts on RDL & protected species** **a) Direct impacts due to inclusion of RDL species in vegetation removal** • Limit the impact to the footprint and immediate support areas, especially within the areas associated with the proposed substation site;

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	**Moderate**	
	Indirect impacts: • Disturbance / destruction of indigenous vegetation make ecosystems vulnerable and can lead to the introduction and spread of alien invasive vegetation.	**Alt 1**	**High**	As above
		Alt 2	**High**	
		Alt 3	**Moderate**	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
Archaeological or Cultural	***Direct impacts:*** • Stone tools were identified in three different areas. Only two of these are located inside the power line corridors. It consists mostly of flakes, with a few formal tools, all of fine-grained material such as agates and quartz. o These sites are located inside the power line corridor, close to the area where the substation is to be developed. It is therefore likely that the construction of the power line substation would have an impact on them. • Two farmsteads consisting of a main house and a number of outbuildings and farming related features were identified. It does not exhibit any remarkable construction features or stylistic characteristics. o Although these sites are located inside the power line corridor, it is unlikely that the construction of the power line would have an impact on them as it is clearly visible, still in use and fenced off.	**Alt 1**	**Moderate**	• Stone Tools: o It is recommended that a qualified Stone Age archaeologist do a surface collection on the sites and that this material is then deposited in a national repository. • Two farmsteads: o No mitigation is required • Burial Sites o The burial sites should be avoided by leaving buffer areas of at least 10m on all sides. The sites should also be fenced off with danger tape during construction of the power line. If that is not possible, the graves must be relocated after the proper procedure has been followed. **<u>Additional Recommended Management Measures:</u>** • Known sites should be clearly marked in order that they can be avoided during construction activities; • The contractors and workers should be notified that archaeological
		Alt 2	**Moderate**	
		Alt 3	**Low**	

Activity	Impact summary	Significance		Proposed mitigation
	• Two different burial sites were identified to be located either inside or in close proximity of the power line corridors. o The sites plot on the edge of the power line corridor or just inside it. It would therefore be possible to avoid it and retain it in its original location.			sites might be exposed during the construction work; • Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible; • All discoveries shall be reported immediately to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken; • Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and • Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1). **In order to achieve the above, the specialist recommend the following:** • A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage. • Known sites should be located and isolated, e.g. by fencing them off. All residents and their visitors should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above. • In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.
	Indirect impacts: None expected	**Alt 1** **Alt 2**	N/A N/A	None required

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
Socio-Economic	***Direct impacts:*** • During construction phase the Eskom appointed contractor will appoint local labour from the surrounding community. As a result, there could be an influx of job seekers and workers to the area. Job creation is viewed as a positive impact, however, only temporary jobs will be created, as no jobs will be created during the operational phase. • Construction camps and construction activities could result in a negative visual impact for the affected landowner and adjacent land uses. However, due to the remote location of the study area, this impact is expected to be negligible. • Furthermore unauthorised movement on private properties can occur during the construction phase. • Construction activities could impact on current land uses. • During the construction phase, damage to private property can occur. • Crime may become an issue due to an influx of job seekers. • Disruptions of services could occur as a result of construction activities. • Heavy vehicles transporting construction materials to site may have an impact on current traffic volumes. In addition, construction vehicles can be a safety hazard for pedestrians, especially children. There are three private aircraft landing strips within the study area. Based on the outcome of the Public Participation Phase to date, only	**Alt 1** **Alt 2**	**Moderate** (**Moderate** *Positive Impact and* **Moderate** *Negative Impact)*	• The contractor and all staff should attend Environmental Awareness training, to be conducted by the appointed ECO, prior to the commencement of construction activities. During this training session, personnel should be made aware that they are not allowed to trespass onto any other properties, and that machinery and equipment may only be operated in designated working areas. • All conditions requested by the landowner for e.g. access control during maintenance, rehabilitation of impacted areas where maintenance was required, should be included in the Final EMP. • Prior to commencement of site establishment activities, Eskom and the Contractor should put agreements in place with the affected landowners with regards to compensation for damage to property caused as a result of construction activities (where applicable). • Any damage caused to adjacent properties or infrastructure as a result of construction activities should be fixed by the Contractor to the satisfaction of the landowner. • The ECO should have meetings with affected landowners monthly to ensure that landowner issues and concerns are dealt with according to agreements made between Eskom, the contractor and the landowner. • During the set up phase of the project, the Contractor needs to make contact with those people that are interested or affected by the development (IAPs); • Limit construction activities to daylight hours; • No construction should take place on weekends; • Develop and implement a grievance procedure;

Activity	Impact summary	Significance		Proposed mitigation
	one of these landing strips are still operational. This operational landing strip belongs to Assmang. The other two landings strips are situated on private farm land and are currently not operational. The proposed powerlines could interfere with the operations of these landing strips and make it unsafe to safely land aircrafts. Alternative 1 is the shortest route alternative and will have the smallest overall footprint, however, this alternative moves through some areas where no comparable infrastructure exists. Alternative 2 are relatively shorter than Alternative 3, but also moves through some areas where no comparable infrastructure exists. Alternative 3 is the longest route, but remains associated with existing infrastructure of equal or greater stature.	**Alt 3**		• Construction traffic must travel outside peak traveling times; • Road safety events at local schools; • Inform communities in advance of disruptions in services; • Create and communicate a recruitment strategy; • Get involved with local initiatives such as the local Science Expo.
	Indirect impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
Noise	***Direct impacts:*** Noise will be generated by heavy vehicle traffic and construction activities. However, due to the remote location of the study area, it is very unlikely this this impact will be significant	**Alt 1**	**Low**	• Keep all equipment in good working order • Operate equipment within its specification and capacity and don't overload machines • Apply regular maintenance, particularly with regards to lubrication. • Operate equipment with appropriate noise abatement accessories, such as sound hoods.
		Alt 2	**Low**	
		Alt 3	**Low**	
	Indirect impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	N/A	
Traffic	***Direct impacts:*** Heavy vehicles transporting construction materials to site may have an impact on traffic travelling on roads in the study area.	**Alt 1**	**Moderate**	• Provide enough heavy vehicle storage areas in the proposed contractors camp; • Ensure that vehicle traffic which may obstruct traffic flow is scheduled outside of peak travelling time in the morning or afternoon; • Ensure that heavy / large load traffic is appropriately routed and appropriate safety precautions are taken to prohibit road collisions and traffic incidences; and • Ensure that vehicle operators are suitably licensed, have had appropriate environmental and safety induction, are aware of specific site procedures, and are well rested and cognisant when operating heavy or unsafe vehicles / machinery.
		Alt 2	**Moderate**	
		Alt 3	**Moderate**	
	Indirect impacts: Heavy vehicles transporting construction materials to site will be traveling along roads where heavy mine vehicle traffic occur, and where private farm land is accessed from. These heavy vehicles and other construction vehicles may be pose a risk to local road users, and can be a safety hazard for pedestrians, and livestock crossing roads.	**Alt 1**	**Moderate**	• Ensure that vehicle traffic which may obstruct traffic flow is scheduled outside of peak travelling time in the morning or afternoon;
		Alt 2	**Moderate**	
		Alt 3	**Moderate**	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
Visual	***Direct impacts:*** The removal of vegetation, construction equipment, stockpiles and activities undertaken during the construction phase may have a	**Alt 1**	**Low**	**Design:** The project is currently at the planning phase, and therefore the opportunity exists for integration of visual mitigation techniques before construction commences. It is recommended that screening measures

Activity	Impact summary	Significance		Proposed mitigation
	negative visual impact on the adjacent land uses. A Visual Impact Assessment for the three alternative powerline study corridors was undertaken by Terratest. A copy of the Visual Impact Assessment Report compiled by Terratest is attached to Appendix D of this Basic Assessment Report. A summary of the Report finding are provided below: • The overall visual impact of the proposed infrastructure is perceived to be medium to low. While the visual intrusion on adjacent sensitive receptors is evident, the visual impact is not expected to infringe on the constitutional rights of these receptors. Furthermore, the visual impacts identified are not a fatal flaw to the proposed project and recommended mitigation measures can be implemented to offset, to some extent, the visual impacts identified. • Several mitigation measures can be incorporated into the design, construction and operational phases, to offset the visual impacts. • The Visual Impact Specialist recommended Alternative 3 as the preferred due to the following reasons: o This Alternative has smaller areas of potential visual exposure due to the fact that there are already existing powerlines along this route, and as there is an existing road along which the powerline could be aligned; o This alternative has the best ability to consolidate the linear infrastructure (existing vertically disturbed landscapes) within this region. This is due to the alignments running parallel to the existing transmission and distribution lines.	**Alt 2**	**Low**	are incorporated into the substation design. Such measures could include: • Limiting the number of trees surrounding the construction site that will be removed; • Planting trees as a method of screening the lower structures, and subsequently detracting from the vertical height of the infrastructure; • Using neutral, mat-finish paint colours for any ancillary structures or buildings in order to improve visual absorption in the landscape; and • Highly reflective materials should be avoided, and if this is not possible, a mat-finish paint should be applied to conceal glare and reflection. **Construction** • Visible dust will be present at the construction site due to earth moving equipment and vehicles on the dirt access roads. This will temporarily decrease the visual quality of the local area. Standard dust control mitigation should be followed as per the site specific EMPr. • The construction area and site camp should be kept tidy and litter-free throughout construction as visible litter is visually unpleasant for adjacent sensitive receptors, i.e. residents, and passing vehicular traffic. All construction materials should be stored on site. Construction sites should be screened in the form of shade cloths at fence level. This will obstruct views of construction elements on site. All substances such as cement which may be toxic to flora and fauna should be strictly controlled to avoid degradation of the surrounding environment. No foreign material generated/deposited during construction shall remain on site. • Should construction activities take place at night, it is recommended that construction lighting be directed downward and inward (towards the construction centre). This will limit construction spill light at night time, which can be visually intrusive.
		Alt 3	**Low**	
	Indirect impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	

Activity	Impact summary	Significance		Proposed mitigation
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
Air Quality	***Direct impacts:*** Dust generation from stockpiles and soil stripping and vegetation clearing from the servitude area during the construction phase, as well as vehicle traffic on dirt roads and construction vehicle fumes will have an impact on air quality. This impact is however expected to be negligible due to existing mining activities in the area which are a source of air pollution. In addition, the Northern Cape Department of Agriculture, Forestry and Fisheries provided the following comment regarding vegetation clearance: • The developer must note that the Department would not grant a license for clearing of the whole servitude width. Usually a license allows for clearance of the vegetation directly under the powerline and up to 4m on either side. Where possible, slow growing protected trees should be avoided by deviating the line or going underground in the sections with high density protected trees.	**Alt 1**	**Low**	• Appropriate dust suppression measures or temporary stabilising mechanisms will be used when dust generation is unavoidable (e.g. dampening with water, chemical soil binders, straw, brush packs, chipping), particularly during prolonged periods of dry weather. • Soil stockpiles will be located in sheltered areas to limit the erosive effects of the wind. • Vehicle speeds will not exceed 40km/h along dust roads or 20km/h when traversing unconsolidated / non-vegetated areas. • The Contractor will take preventative measures to minimise complaints regarding dust nuisances (e.g. screening, dust control, timing, and pre-notification of affected parties).
		Alt 2	**Low**	
		Alt 3	**Low**	
	Indirect impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	

2. OPERATIONAL PHASE

Activity	Impact summary	Significance		Proposed mitigation
Topography	***Direct impacts:*** No Impact. At the end of the construction phase all soils stockpiles will be removed from site. The powerlines will not have an impact on surface topography during the operational phase.	**Alt 1**	**N/A**	No Impact
		Alt 2	**N/A**	
		Alt 3	**N/A**	
	Indirect impacts: No Impact	**Alt 1**	**N/A**	None Required
		Alt 2	**N/A**	
		Alt 3	**N/A**	
	Cumulative impacts: No Impact	**Alt 1**	**N/A**	None Required
		Alt 2	**N/A**	
		Alt 3	**N/A**	
Soils and Land Capability	***Direct impacts:*** Each monopole will have a concrete foundation. The impact to soils and Land Capability where hard impacted footprint occurs will be a long term impact, as the impact will last for the life of the project. After construction of the substation and proposed loop-in and loop-out lines, existing land uses will continue. Accidental hydrocarbons or oil leaks or spillages from maintenance	**Alt 1**	**Low**	All maintenance vehicles should be kept in good working order and serviced regularly, and all equipment of machinery used during maintenance should be checked for leaks. The maintenance team should have spill kits available to clean any accidental leaks and spillages, and all areas disturbed or damaged during maintenance should be rehabilitated.
		Alt 2	**Low**	

Activity	Impact summary	Significance		Proposed mitigation
	vehicles or equipment may contaminate the soils. Maintenance vehicles may also compact soils which could cause soil infertility.	**Alt 3**	**Low**	
	Indirect impacts: No Impact	**Alt 1** **Alt 2** **Alt 3**	N/A N/A N/A	None Required
	Cumulative impacts: No Impact	**Alt 1** **Alt 2** **Alt 3**	N/A N/A N/A	None Required
Land Use	***Direct impacts:*** Existing land uses of the study area will remain during the operational phase of the powerlines. The powerline servitude may negatively impact on future proposed mining expansion, expansion of infrastructure, or certain farming activities on the affected properties. Maintenance activities may interfere with existing land uses. There are three private aircraft landing strips within the study area. Based on the outcome of the Public Participation Phase to date,	**Alt 1**	**Moderate**	All conditions requested by the landowners for e.g. access control during maintenance, rehabilitation of impacted areas where maintenance was required, should be included in the Final EMP. All conditions and mitigation measures provided by Civil Aviation South Africa should be implemented and adhered to. The powerlines should be routed in such a way to not be an obstacle for aircrafts landing and taking off. The potential Impacts identified can be mitigated through Eskom compensation, and farming and other activities may still be undertaken within the Eskom servitude during the operational phase. Some

Activity	Impact summary	Significance		Proposed mitigation
	only one of these landing strips are still operational. This operational landing strip belongs to Assmang. The other two landings strips are situated on private farm land and are currently not operational. The proposed powerlines could interfere with the operations of these landing strips and make it unsafe to safely land aircrafts. As study corridor 3 follows existing linear infrastructure, it is anticipated that this alternative will have minimal impact on existing land uses during the operational phase of the powerline.	**Alt 2**	**Moderate**	information on the compensation and activities that are allowed, or not allowed within the Eskom servitude are briefly explained below: • Should the project be authorised by Environmental Affairs, Eskom will liaise with the relevant landowner regarding the purchasing of a servitude. Eskom will have the property valuated, and the landowner may also use his/her own private valuator to obtain the value of the property. The purchase price of the servitude is calculated based on the outcome of the property valuation. A 132/11kV line requires a servitude of 31m in width. So if a powerline will traverse a property for a distance of 1km for example, then Eskom will buy a servitude of 1km x 31m in size; • Animals may graze underneath powerlines and within the Eskom servitude; • Cultivation may take place underneath powerlines and within the Eskom servitude; • No structures may be built within the Eskom servitude; • Vegetation cover underneath powerlines may only reach a certain height, as this is a fire hazard, therefore, planting of sugar cane for example, or planting of tall trees for example is a fire hazard; • Pivot irrigation becomes difficult when there are powerlines on a property, as space for the development of a centre pivot may be restricted due to the location of pylons; and • Eskom will require access to servitudes during the construction and operational phases of the powerlines.
		Alt 3	**High**	
	Indirect impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	

Activity	Impact summary	Significance		Proposed mitigation
Surface Water and Groundwater	***Direct impacts:*** Accidental hydrocarbons or oil leaks or spillages from maintenance vehicles or equipment may contaminate the soils, as well as surface and groundwater. Wetland areas may be negatively impacted during the maintenance of powerlines should towers be constructed within the wetland areas.	**Alt 1**	**Low**	All maintenance vehicles should be kept in good working order and serviced regularly, and all equipment of machinery used during maintenance should be checked for leaks. The maintenance team should have spill kits available to clean any accidental leaks and spillages, and all areas disturbed or damaged during maintenance should be rehabilitated. All mitigation measures as provided under the construction phase should be implemented.
		Alt 2	**Low**	
		Alt 3	**Moderate**	
	Indirect impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
Flora, Fauna and Avifauna	***Direct impacts:*** The operation phase of the powerlines and maintenance activities to be undertaken during the operation phase may result in the following impacts: ***1)*** **Impacts on vegetation communities & structures** ***a)*** **Change in vegetation structures** • Site disturbances will lead to a shift in floral species community structures. ***b)*** **Change in vegetation structures: Exotic vegetation encroachment** • The potential for encroachment of exotic vegetation into	**Alt 1**	**High**	**1) Impacts on vegetation communities & structures** ***a)*** **Change in vegetation structures** • This is not thought to be a significant impact and is thought to largely self-rehabilitate. **b) Change in vegetation structures: Exotic vegetation encroachment** • Any exotic vegetation must be controlled and monitored for on a routine basis. **2) Impacts on faunal species, communities & structures** **a) Displacement of sensitive faunal species through increased perpetual disturbance features** • The nature of the proposed development means that
		Alt 2	**High**	

Activity	Impact summary	Significance		Proposed mitigation
	areas that have suffered disturbances exists during the operations phase, especially through *Prosopis glandulosa*. ***2)*** **Impacts on faunal species, communities & structures** ***a)*** **Displacement of sensitive faunal species through increased perpetual disturbance features** • Perpetual disturbances within an area that has historically been subject to very limited disturbances will lead to displacement of sensitive faunal species. This is regarded to be relevant at the local level. ***b)*** **Collision impacts of avifauna with overhead power lines** • Avifaunal fatalities as a result of collisions with the earth wire of the overhead power lines within an area of low existing power line density	**Alt 3**	**Moderate**	perpetual disturbance features are inevitable. Activities should be confined to designated areas only and vehicles to be restricted to designated roadways only. **b) Collision impacts of avifauna with overhead power lines** • Bird flappers are to be fitted to any lines that cross over watercourses and prominent rocky ridges at 10m intervals.
	Indirect impacts: Veld fires as a result of line shortages or conductor blowouts could spread and could have a negative impact on protected tree species as well as plant species of conservational concern or specially protected vegetation.	**Alt 1** **Alt 2** **Alt 3**	**High** **High** **Moderate**	Proper fire maintenance plans should be in place to prevent the spread of veld fires.
	Cumulative impacts: No Impact	**Alt 1** **Alt 2** **Alt 3**	N/A N/A N/A	None Required
Visual	***Direct impacts:*** The overall visual impact of the proposed substation and associated infrastructure is perceived to be medium to low. While the visual intrusion on adjacent sensitive receptors is evident, the visual impact is not expected to infringe on the constitutional rights of these receptors. Furthermore, the visual impacts identified are not a fatal flaw to the proposed project and recommended mitigation	**Alt 1** **Alt 2**	**Low** **Low**	There will be a very limited change in the sense of place and the visual quality of the local landscape due to the development of the powerlines. Where necessary, screening techniques can be implemented at the site, such as planting trees and ensuring that the materials and choice of paint colour for any ancillary structures is brown or grey in order to blend in with the landscape. White paint should be avoided. Suggested mitigation measures should be monitored and modified if necessary to ensure there is a minimum visual impact. The operational phase is expected to be

Activity	Impact summary	Significance		Proposed mitigation
	measures can be implemented to offset, to some extent, the visual impacts identified.	**Alt 3**	**Low**	over an extended period of time (>20 years), therefore maintenance of any painted structures should be conducted.
	Indirect impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
	Cumulative impacts: No Impact	**Alt 1**	N/A	None Required
		Alt 2	N/A	
		Alt 3	N/A	
Socio-Economic	***Direct impacts:*** • Maintenance activities could impact on current land use practises which could result in loss of income or loss of business due to nuisance caused by construction activities. • During maintenance, damage to private property can occur. • Uncontrolled usage of gates to obtain access to the servitude during maintenance could result in unauthorised entry, or loss of livestock where applicable.	**Alt 1**	**Low**	• All conditions requested by the landowners for e.g. access control during maintenance, rehabilitation of impacted areas where maintenance was required, should be included in the Final EMP; and • Any damage caused to adjacent properties or infrastructure as a result of maintenance activities should be fixed to the satisfaction of the landowner by Eskom as per the EMP agreements;
		Alt 2	**Low**	
		Alt 3	**Low**	
	Indirect impacts: The proposed powerlines are required to supply electricity to the Lehating mine. The new mine will create new job opportunities which will contribute to economic growth. Without electricity, the mine cannot become operational. Therefore, the proposed powerlines will have an indirect positive impact on economic growth and employment opportunities.	**Alt 1**	**High Positive Impact**	None required
		Alt 2		
		Alt 3		
	Cumulative impacts: None expected	**Alt 1**	N/A	None required
		Alt 2	N/A	
		Alt 3	N/A	

3. DECOMMISSIONING PHASE

It is not anticipated that the proposed new powerlines will ever be decommissioned, as these powerlines will provide electricity to the new Lehating Substation. However, should the proposed powerlines ever be decommissioned, the proposed impacts and mitigation measures, as provided for the construction phase, will be applicable. In addition, a Rehabilitation Plan would have to be compiled by a suitably qualified specialist and should be submitted to DEA for approval, should the lines ever be decommissioned.

4. NO-GO ALTERNATIVE

The proposed powerlines are required to supply electricity to the Lehating substation at the Lehating mine. The mine will create new job opportunities which will contribute to economic growth. Without electricity, the mine cannot become operational. Therefore, the proposed powerlines will have an indirect positive impact on economic growth and employment opportunities.

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.

A summary of the outcome of the Impact Assessment undertaken is provided in the tables below. A complete impact assessment in terms of Regulations (22)(2)(i) of GN 543 is attached to Appendix F of this Basic Assessment Report

(a) Pre-Construction and Construction Phase Impacts

Impact Assessment Summary: Pre-Construction and Construction Phase	Impact Ratings Before Mitigation			Impact Ratings After Mitigation
			Impact Risk	Impact Risk
Geology	Alt 1	Direct Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Low	Very Low
Topography	Alt 1	Direct Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Low	Low
Soils and Land Capability	Alt 1	Direct Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		Low	Low
Land Use	Alt 1	Direct Impact	Moderate	Very Low
	Alt 2		Moderate	Very Low
	Alt 3		Low	Very Low
	Alt 1	Indirect Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		Moderate	Low
Surface and Ground Water	Alt 1	Direct Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Low	Very Low
	Alt 1	Indirect Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Low	Very Low
Fauna, Flora & Avifauna	Alt 1	Direct Impact	High	Moderate
	Alt 2		High	Moderate
	Alt 3		Moderate	Low

Impact Assessment Summary: Pre-Construction and Construction Phase	Impact Ratings Before Mitigation			Impact Ratings After Mitigation
			Impact Risk	Impact Risk
	Alt 1	Indirect Impact	High	Moderate
	Alt 2		High	Moderate
	Alt 3		Moderate	Low
Archaeological or Cultural	Alt 1	Direct Impact	Moderate	Very Low
	Alt 2		Moderate	Very Low
	Alt 3		Low	Very Low
Socio-Economic	Alt 1	Direct Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		Moderate	Low
Noise	Alt 1	Direct Impact	Low	Low
	Alt 2		Low	Low
	Alt 3		Low	Low
Traffic	Alt 1	Direct Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		Moderate	Low
	Alt 1	Indirect Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		Moderate	Low
Visual	Alt 1	Direct Impact	Low	Low
	Alt 2		Low	Low
	Alt 3		Low	Low
Air Quality	Alt 1	Direct Impact	Low	Low
	Alt 2		Low	Low
	Alt 3		Low	Low

(b) Operational Phase Impacts

Impact Assessment Summary: Pre-Construction and Construction Phase	Impact Ratings Before Mitigation			Impact Ratings After Mitigation
			Impact Risk	Impact Risk
Soils and Land Capability	Alt 1	Direct Impact	Low	Low
	Alt 2		Low	Low
	Alt 3		Low	Low
Land Use	Alt 1	Direct Impact	Moderate	Low
	Alt 2		Moderate	Low
	Alt 3		High	Moderate
Surface Water & Groundwater	Alt 1	Direct Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Moderate	Low
Fauna, Flora and Avifauna	Alt 1	Direct Impact	High	Moderate
	Alt 2		High	Moderate
	Alt 3		Moderate	Low
	Alt 1	Indirect Impact	High	Moderate

Impact Assessment Summary: Pre-Construction and Construction Phase	Impact Ratings Before Mitigation			Impact Ratings After Mitigation
			Impact Risk	Impact Risk
	Alt 2		High	Moderate
	Alt 3		Moderate	Low
Visual	Alt 1	Direct Impact	Low	Low
	Alt 2		Low	Low
	Alt 3		Low	Low
Socio-Economic	Alt 1	Direct Impact	Low	Very Low
	Alt 2		Low	Very Low
	Alt 3		Low	Very Low
Socio-Economic	Alt 1	Indirect Impact	High Positive Impact	N/A
	Alt 2			N/A
	Alt 3			N/A

Alternative 3 (preferred alternative)

With the implementation of mitigation measures, all construction and operational phase impact could be of low to very low risk for Alterative 3. In addition, all Specialists also recommended that route Alternative 3 be selected as the preferred alternative.

A summary of the specialist comments are provided below.

Alternative Recommendation made by the Ecologist:

The specialist provided the following breakdown on the assessment of the three route alternatives, and based on the findings and impact assessment undertaken, the specialist recommended route Alternative 3 be selected as the preferred route.

Alternative	Advantages	Disadvantages	Preference*
Alternative 1	Shortest route and therefore has the smallest overall footprint	Moves through some areas where no comparable infrastructure exists	3
Alternative 2	Relatively shorter route	Moves through some areas where no comparable infrastructure exists	2
Alternative 3	Remains associated with existing infrastructure of equal or greater stature	Relatively long route	1
Alt 3 deviation B	Falls in line with the existing preferred option of Alt 3 and is also the shortest route therefore having the smallest overall footprint area.	-	1

Preference: 1=Preferred; 2=Less preferred; 3=Not preferred.

Alternative Recommendation made by the Aquatic Specialist:

Three Alternatives study corridors where investigated for the routing of the overhead power. Of these alternatives, Alternative 3 will be the preferred corridor from an aquatic resource perspective. The line can be placed anywhere within this corridor Alternative 3. Alternative 2 will potentially only affect the Kuruman River and its associated floodplains, while Alternatives 1 and 3 will potentially affect both the wetland flat and the

Kuruman River and its associated floodplains. Alternative 2 however, will not be associated with any current infrastructure and all impacts related to this route will be fairly new. The impacts related to Alternative 1 and 3 will largely be cumulative in nature as the route will follow existing infrastructure. As a result, both Alternatives 1 and 3 could be considered for the proposed project.

Alternative Recommendation made by the Floodline Specialist:

As expected, the alignments of the centre lines within the study corridors, as well as deviations 3A and 3B are inundated. There are no significant differences between the inundation extents of Alternatives 1, 3 and 3B. The inundation extent of the Alternative 2 and 3A appears to be somewhat less by comparison. This is thought to be as a result of the reduced length of the alignment through the Kuruman River (i.e. the orientation of the alignments with respect to the Kuruman River). It is understood that Eskom's preferred route is Alternative 3B. Based on the findings of the study, it is thought that there will be no significant limitations should this Alternative be selected for the project's future development. However, consideration of the limitations associated with the simulated extents of the 1:20, 1:50 and 1:100 year design flood events should be made.

Alternative Recommendation made by the Heritage Specialist:

Based on the findings of the Heritage Impact Assessment, the specialist indicated that the eastern corridor (Alternative 3) would be the preferred choice for powerline construction, although the western corridor (Alternative 2) can also be used, on condition of acceptance of the proposed mitigation measures. The specialist also recommended that if archaeological sites or graves are exposed during development activities, it should immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made.

Alternative Recommendation made by the Visual Impact Specialist:

- The Visual Impact Specialist recommended study corridor Alternative 3 as the preferred alternative, due to the following reasons:
  - This Alternative has smaller areas of potential visual exposure due to the fact that there are already existing powerlines along this route, and as there is an existing road along which the powerline could be aligned;
  - This alternative has the best ability to consolidate the linear infrastructure (existing vertically disturbed landscapes) within this region. This is due to the alignments running parallel to the existing transmission and distribution lines.

Alternative 2

Alternative 2 moves through some areas where no comparable infrastructure exists, and is therefore not a preferred alternative. The impact assessment have shown that the impact significance of impacts expected during the pre-construction and construction phase will mainly be of a moderate risk, with a few being of high risk. With the implementation of mitigation measures, the impact risk of all these expected impacts varies from moderate to low.

Alternative 1

Alternative 1 moves through some areas where no comparable infrastructure exists, and is therefore not a preferred alternative. The impact assessment have shown that the impact significance of impacts expected during the pre-construction and construction phase will mainly be of a moderate risk, with a few being of high risk. With the implementation of mitigation measures, the impact risk of all these expected impacts varies from moderate to low.

No-go alternative (compulsory)

The proposed powerlines are required to supply electricity to the Lehating mine. The new mine will create new job opportunities which will contribute to economic growth. Without electricity, the mine cannot become operational. Therefore, the proposed powerlines will have an indirect positive impact on economic growth and employment opportunities.

Impact Assessment: No-Go Alternative	Before Mitigation		Mitigation Measure Proposed	After Mitigation	
	Impact Significance	Impact Risk		Impact Significance	Impact Risk

Geology	No Impact	No Impact	None Required	N/A	
Topography	No Impact	No Impact	None Required	N/A	
Soils and Land Capability	No Impact	No Impact	None Required	N/A	
Land Use	No Impact	No Impact	None Required	N/A	
Surface and Ground Water	No Impact	No Impact	None Required	N/A	
Fauna, Flora and Avifauna	No Impact	No Impact	None Required	N/A	
Archaeological or Cultural	No Impact	No Impact	None Required	N/A	
Socio-Economic	**HIGH Negative Impact**	**HIGH Negative Impact**	Provide the new mine with electricity supply	**High Positive Impact**	**High Positive Impact**
Noise	No Impact	No Impact	None Required	N/A	
Traffic	No Impact	No Impact	None Required	N/A	
Visual	No Impact	No Impact	None Required	N/A	
Air Quality	No Impact	No Impact	None Required	N/A	

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 X	NO

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment).

Not Applicable

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.

- All recommendations made by the specialists and all mitigation measures proposed by the specialists in their specialist assessments, as incorporated in the EMP should be implemented and adhered to;
- All other conditions, monitoring and mitigation measures, as provided in the EMP, should be adhered to; and
- All conditions requested by the landowners, for example, access control during maintenance, rehabilitation of impacted areas where maintenance is required, should be included in the Final EMP, and should be adhered to.
- The following specific recommendations and mitigation measures was provided by Commentary Authorities:

  Comments made by NCDAFF:
  - The study site is known to contain protected tree species such as *Acacia (Vachellia) erioloba* and *Acacia (Vachellia) haematoxylon.* If any protected trees would be impacted on, the developer must apply and obtain a valid Forest Act License prior to construction of the powerline, but only after obtaining the Environmental Authorisation and shortly prior to construction.
  - The developer must note that the Department would not grant a license for clearing of the whole servitude width. Usually a license allows for clearance of the vegetation directly under the powerline and up to 4m on either side. Where possible, slow growing protected trees should be avoided by deviating the line or going underground in the sections with high density protected trees.
  - Where the powerline will cross the Kuruman River extra care should be taken at the river crossings, because of the higher density protected trees usually associated with ephemeral drainage lines.
  - The developer may also need a Flora Permit from the provincial Department of Environment and Nature Conservation (DENC) should any natural indigenous, protected or specially protected plant species (under the Northern Cape Nature Conservation Act, Act 9 of 2009) be impacted on. The same applies to the TOPS listed or CITES listed plant species under the National Environmental Management Biodiversity Act (NEMBA).
  - Protected trees such as large Camel thorns with Sociable Weaver *Philetairus socius* nests may not be disturbed without a valid Fauna Permit from the DENC.

  Recommendations made by NCDAFF:
  If the project is authorised, this Department would recommend that it be for the route option that would have the least impact on slow growing protected trees. Three 1km wide corridor alternatives will be assessed, hence it should be possible to avoid area of high density protected trees.

Is an EMPr attached?	YES X	NO

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

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Not Applicable

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix E 1: Proof of Newspaper Advertisement

Appendix E 2: Stakeholder Notification

Appendix E 3: Comments and Response Report

Only one comment was received, which has been included in the Draft Report

Appendix E 4: Proof of Notification to Organs of State

Appendix E 5: List of Interested and Affected Parties

Appendix E 6: Stakeholder Correspondence and Minutes of Meetings

The Issues and Response Register and comments received from Stakeholders are attached to Appendices E2 & E3. Please note that no Public Meeting was held, as there was no interest from the I&AP's hence there was no need for such a meeting.

Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information