



# DRAFT BASIC ASSESSMENT REPORT

PROPOSED RE-ROUTING OF 132kV LINES AND  
ASSOCIATED INFRASTRUCTURE AT THE WATERSHED  
SUBSTATION NEAR LICHTENBURG, NORTH WEST  
PROVINCE

EIMS REF#: 0988  
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April 2014



## BASIC ASSESSMENT REPORT

### BASIC ASSESSMENT FOR THE PROPOSED RE-ROUTING OF 132KV LINES AND ASSOCIATED INFRASTRUCTURE AT THE WATERSHED SUBSTATION

#### DOCUMENT CONTROL

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#### REVISION AND AMENDMENTS

Date	No.	Description Of Revision Or Amendment
2014-04-10	0	Draft Basic Assessment Report

# BASIC ASSESSMENT REPORT

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## environmental affairs

Department:  
Environmental Affairs  
REPUBLIC OF SOUTH AFRICA

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**File Reference Number:**

**Application Number:**

**Date Received:**


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

### Kindly note that:

1. This **basic assessment report** is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.
2. This report format is current as of **1 September 2012**. 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.

## BASIC ASSESSMENT REPORT

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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 on 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**

Project Overview

Eskom has applied for Environmental Authorisation for the proposed relocation of 4 x 132kV lines from the existing 132kV busbar to the new adjacent busbar at the existing Watershed Substation (SS) near the town of Lichtenburg, which falls within the Ditsobotla Local Municipality, which forms part of the Ngaka Modiri Molema District Municipality, in the North West Province. The proposed relocation of lines and construction of other associated infrastructure will only be undertaken within the Eskom owned property boundaries.



Figure 1: Watershed Substation (Google; 2013)

Eskom requires re-routing of four (4) distribution lines at the Watershed Sub-station in order to facilitate the installation of a new 275/132kV 250MVA transformer as well as a new 132kV busbar. The proposed 132kV lines to be re-routed and the respective distances, are:

- Watershed-Sephaku 132kV (110m);
- Watershed- Klerksdorp North 132kV (85m);
- Watershed-Makokstraal 132kV (310m); and
- Watershed-Zeerust 132kV (1.1km)

The following specific activities pertain to the application and will be assessed in this Basic Assessment (BA):

1. Construction Phase

The construction activities typically associated with



Figure 2: View of existing infrastructure within and around the Watershed Substation (study area) (Aken. 2014)

a powerline construction, project of similar scope include:

- Site establishment including:
  - Line pegging and demarcation of tower positions;
  - Identification and establishment of construction camps;
  - Transport and delivering of materials to site (usually at the construction camp);
  - Identification and clearing of access roads to tower positions; and
  - Servitude preparation (removal of vegetation exceeding the specified clearance heights).
- Earthworks to include activities of:
  - site clearing;
  - excavations for tower foundations;
  - filling and compacting; and
  - blasting (where necessary).
- Concrete formwork and reinforcement to include activities of:
  - preparation of, mixing, and placement of concrete;
  - assembling towers; and
  - erection of towers.
- Stringing of conductors (stringing is typically done by means of winching).

The composition of the construction camp required for construction will be typically small and is anticipated to be located within the proposed site/ Eskom property. Construction is anticipated to take approximately 24 months.

There is an existing surfaced access road to the site. During the submission of the EA application to the Authority, construction of the access road was also included as one of the listed activities due to Eskom's uncertainty regarding the detailed design of the facility. However it has consequently been determined that the proposed new access road will not require authorisation from the competent authority as it does not trigger any NEMA listed activity. During construction it may be necessary to create temporary access routes. Whilst every reasonable effort will be made by Eskom to maximise the use of existing roads within and around the Watershed Substation, the proposed 132kV lines will require access to each of the tower positions for the purposes of construction. All temporary access roads will be decommissioned and rehabilitated following construction.



Figure 3: Existing access road on site (Aken: 2014)

All access roads will need to be adequately signposted as required by the relevant legal provisions. No lighting will be required for the access roads.

## 2. Operational Phase

The nature of an installed and operational powerline is such that very little additional management and monitoring is required during operation. Typical operational activities associated with the operational phase of a powerline may include:

- Integrated veld management along the servitudes (e.g. maintaining vegetation clearing heights, monitoring veld composition; reducing veld fire fuel sources, etc);



- General monitoring, maintenance, repair and upkeep of tower structures and conductors;
- Maintenance and management of the access to the servitudes and towers; and
- General erosion control where necessary.

It is important to note that Eskom requires vehicular access to all of the tower positions and as such the servitude is maintained in such a way that vehicles can travel within the servitudes.

### 3. Decommissioning Phase

In accordance with the requirements of the EIA regulations it is important to consider and assess the likely impacts resulting from the decommissioning of the facility and other related infrastructures. It is important to note that at present there is no intention to decommission the proposed 132kV lines or the Substation at any time in the near future. Where applicable, necessary maintenance and repairs will be carried out to ensure continuous operation. It is however important to consider the fact that the electricity generation and transmission industry is rapidly developing and evolving, and as such there is a possibility that these facilities may in the distant future become obsolete.

As a result the facilities will need to be correctly decommissioned. Decommissioning typically involves the following activities:

- Disconnection and removal of equipment;
- Dismantling and demolition of structures;
- Re-use, recycle, reduce, and/or dispose of relevant materials;
- Re-instatement of disturbed areas; and
- Rehabilitation and monitoring.

The ultimate objective of the decommissioning phase will be to re-instate the affected areas to a state in similar or better condition than the current environment.

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

Listed activity as described in GN R.544, 545 and 546	Description of project activity
<b>GN R. 544 Item 10(i):</b> The construction of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.	The proposed project entails the construction of 4 132kV distribution lines at the Watershed Substation.
<b>GN R. 544 Item 22 (ii):</b> The construction of a road, outside areas where no reserve exists where the road is wider than 8 metres.	This listed activity was included in the initial application due to uncertainties regarding the design at that stage. It has consequently been determined that the proposed new access route will not be wider than 8m or have a reserve wider than 13,5m. Therefore this listed activity is no longer applicable.
<b>GN R. 544 Item 23(i):</b> The transformation of underdeveloped, vacant or derelict land to residential, retail, commercial, recreational, industrial or institutional use, inside an urban area, and where the total area to be transformed is 5 hectares or more, but less than 20 hectares.	The proposed project may involve the transformation of vacant land for the foundation positions for the line towers.

## BASIC ASSESSMENT REPORT

<b>GN R. 544 Item 26:</b> Any process or activity identified in terms of section 53 (1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)	According to the Ecological assessment undertaken for the proposed development, it is considered that there is a low probability of any plant species of conservation concern occurring on site. There is therefore a very low likelihood of any such plants being affected by the proposed project.
<b>GN R. 544 Item 42:</b> The expansion of facilities for the storage, or storage and handling, of a dangerous good, where the capacity of such storage facility will expand by 80 cubic metres or more.	Eskom will install a new 250MVA PTT 275/132/22kV transformer with an oil capacity of 81 475 litres.

## 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 Regulation 22(2)(h) of GN R.543. 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

The identification of alternatives is a key aspect of the success of the Basic Assessment process. All reasonable and feasible alternatives must be identified and screened to determine the most suitable



## BASIC ASSESSMENT REPORT

alternatives to consider in this application. There are however, some constraints that have to be taken into account when identifying alternatives for a project depending on the scope. Such constraints include financial, social and environment related. Alternatives can typically be identified according to:

- Activity alternatives;
- Process alternatives;
- Scheduling alternatives;
- Input alternatives;
- Location alternatives; and
- The No-Action alternative (No-Go)

For any alternative to be considered feasible, such an alternative must meet the need and purposes of the development proposal without presenting significantly high associated impacts. Alternatives are typically distinguished into discrete or incremental alternatives. Discrete alternatives are overall development options, which are typically identified during the pre-feasibility, feasibility and / or Basic Assessment process. Incremental alternatives typically arise during the Basic Assessment process and are usually suggested as a means of addressing/ mitigating identified impacts (e.g. power lines with bird flaps). These alternatives are closely linked to the identification of mitigation measures and therefore are not specifically identified as distinct alternatives.

For the purpose of this project the need and justification for alternatives was specifically guided by the relatively low sensitivity of the receiving socio-economic and biophysical environment. The types of alternatives considered are presented below.

<b>Alternative 1 (preferred alternative)</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
The preferred site alternative is within the Eskom Watershed Substation property boundary. As per the attached layout plan in appendix A, all four (4) 132kV lines will be accommodated within the boundary of the Eskom property. The geographical coordinates listed represent the corner points of the study area. Please refer to Appendix A2 for Alternative 1 (preferred alternative) lay out plan.	26°05'38" 26°05'31" 26°05'11" 26°05'18"	26°08'33" 26°08'50" 26°08'56" 26°08'25"
<b>Alternative 2</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
It is Eskom's intention to erect all the proposed 132kV lines within the Watershed substation boundary; however should this not be possible, some of the powerlines may go beyond Eskom's property boundary and these will infringe into two adjacent properties (remaining extent (R/E) of portion 1 of the farm Lichtenburg Town and Townlands 27 IP and Remaining extent of portion 0 of the farm Priem 30 IP). In addition to the study area described in alternative 1 (preferred alternative) above an extra portion of land will then be required from two adjacent properties in order to accommodate those powerlines that run beyond the Eskom property (Watershed substation property boundary). Please refer to Appendix A3 for the Alternative 2 lay out plan.	26°05'38" 26°05'39" 26°05'31" 26°05'20" 26°05'11" 26°05'13" 26°05'14" 26°05'18"	26°08'33" 26°08'44" 26°08'50" 26°08'56" 26°08'56" 26°08'48" 26°08'44" 26°08'25"
<b>Alternative 3</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)

## BASIC ASSESSMENT REPORT

In the case of linear activities:

**Alternative:**

**Latitude (S):**

**Longitude (E):**

Alternative S1 (preferred)

- The development footprint of the proposed project

26°05'38"	26°08'33"
26°05'31"	26°08'50"
26°05'11"	26°08'56"
26°05'18"	26°08'25"

Represent four corner points along the boundary of the site, in which the proposed 132kV lines will be constructed, (refer to Appendix A2 for more details).

- Middle/Additional point of the activity
- End point of the activity


Alternative S2 (if any)

- Starting point of the activity

26°05'38"	26°08'33"
26°05'39"	26°08'44"
26°05'31"	26°08'50"
26°05'20"	26°08'56"
26°05'11"	26°08'56"
26°05'13"	26°08'48"
26°05'14"	26°08'44"
26°05'18"	26°08'25"

Represents the four corner points along the boundary of the Eskom Watershed property boundary as well as the proposed powerline routes that infringes into two adjacent properties (remaining extent (R/E) of portion 1 of the farm Lichtenburg Town and Townlands 27 IP and Remaining extent of portion 0 of the farm Priem 30 IP)

- Middle/Additional point of the activity
- End point of the activity


Alternative S3 (if any)

- Starting point of the activity
- Middle/Additional point of the activity
- End point of the activity


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.

**b) Lay-out alternatives**

<b>Alternative 1 (preferred alternative)</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>As indicated above and shown on the layout plan that is provided in Appendix A2, the proposed four 132kV powerlines for the preferred alternative will only be within the Eskom property boundary. In terms of the provided layout no areas beyond the watershed substation site will be affected by the proposed activity and as a result the impact of the development will be limited within the site that is already transformed by the existing substation (please refer to appendix A2 for further details on the proposed layout plan.</p> <p>Furthermore, the project footprint will be determined by the type and sizes of the towers to be used. Twelve (12) towers will be constructed. Please refer to Appendix J for the proposed structure types of towers</p>	26°05'38"	26°08'33"
	26°05'31"	26°08'50"
	26°05'11"	26°08'56"
	26°05'18"	26°08'25"
<b>Alternative 2</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)
<p>Lay-out plan A3 as included in Appendix A still has the majority of the activities undertaken within the Eskom Substation property boundary, however in addition few of the proposed powerlines overlap to two adjacent properties (remaining extent (R/E) of portion 1 of the farm Lichtenburg Town and Townlands 27 IP and R/E of portion 0 of the farm Priem 30 IP). It should be therefore noted that if this particular layout is considered impacts of the proposed development will overlap into new/ greenfield areas that are not yet transformed.</p>	26°05'38"	26°08'33"
	26°05'39"	26°08'44"
	26°05'31"	26°08'50"
	26°05'20"	26°08'56"
	26°05'11"	26°08'56"
	26°05'13"	26°08'48"
	26°05'14"	26°08'44"
	26°05'18"	26°08'25"
<b>Alternative 3</b>		
Description	Lat (DDMMSS)	Long (DDMMSS)

**c) Technology alternatives**

<b>Alternative 1 (preferred alternative)</b>
<p>The EIA guideline series published by the DEAT uses the following examples to illustrate the nature of process or technology alternatives: 'the re-use of process water in an industrial plant, waste minimising or energy efficient technology, or different mining methods'. Process alternatives imply the investigation of alternative processes or technologies that can be used to achieve the same goal.</p> <p>The type of development and technology on a site is usually dependent on the ultimate objectives of the project applicant as well as the specific constraints that a specific site may impose. Eskom as an entity is in the business of power and electricity related activities. Therefore, the proposed project is directly linked to the need as defined by the applicant, namely Eskom. Eskom is mandated to provide and distribute electrical power throughout South Africa, and as such no other technology either than that of electrical power production would be reasonable or feasible for Eskom to implement.</p>

## BASIC ASSESSMENT REPORT

Furthermore, Eskom utilises a range of pylon tower designs when erecting a power line. It is EIMS's understanding that the extent and magnitude of the potential impact related to the construction of the towers is similar regardless of which design is utilised. The only potential benefit which may be considered would be the aesthetic differences related to the different designs.

Therefore, no specific technology alternatives have been identified for this project.

### Alternative 2

Same as for the preferred alternative (Alternative 1) above. This is due to the fact that the project's process and/or technology will remain the same for both alternatives.

### Alternative 3

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

### Alternative 1 (preferred alternative)

Scheduling alternatives refer to a situation where a number of measures might play a part in an overall programme, but the order in which they are scheduled will contribute to the overall effectiveness of the end result. The extent of scheduling alternatives varies significantly from small alternatives such as utilising the most suitable time in the day for certain activities (e.g. noisy activities during normal working hours), to larger scheduling alternatives such as the time of year different activities are undertaken (e.g. site clearing to avoid the local planting and harvesting periods). It is anticipated that many scheduling alternatives will be identified throughout the Basic Assessment process and will be incorporated as incremental alternatives into the EMPR.

No specific process alternatives have been identified for this project.

### Alternative 2

Same as above

### Alternative 3

#### e) No-go alternative

The "No Go" or "No Action" alternative refers to the alternative of not embarking on the proposed project at all. This alternative would denote the current status quo without the proposed project. It is important to note that the No Go alternative is the baseline against which all other alternatives and the development proposal are assessed.

When considering the No Go alternative, the impacts (both positive and negative) associated with any other specific alternative or the current project proposal would not occur and in effect the impacts of the No Go alternative are therefore inadvertently assessed by assessing the other alternatives. In addition to the direct implications of retaining the status quo there are certain other indirect impacts, which may occur should the No Go alternative be followed. The No-go alternative as a specific alternative is not considered feasible for the following reasons:

- If the project does not proceed in its entirety then Eskom will not meet its mandate in terms of its governing legislation; and
- The benefits of a strengthened electricity transmission network would not materialise and there are likely to be significant indirect negative impacts (on a local, regional and national scale) on the electricity consumers and future economic development.

The No-go alternative, as a specific alternative will not be considered further.

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):**

There is only one activity alternative. The activities included in this application include the possible extension of the footprint position based on the type of towers to be used during construction of the proposed 132kV lines. The physical size of the activity is described below.

**Alternative:**

Alternative A1<sup>1</sup> (preferred activity alternative)

**Size of the activity:**

Twelve towers will be constructed and the footprints for each of the towers are typically small (no larger than approximately 4m<sup>2</sup>). The total area to be affected will be approximately 48 m<sup>2</sup>.

Alternative A2 (if any)

Approximately 19 towers will be required for alternative S2 and the footprints for each of the towers are typically small (no larger than approximately 4m<sup>2</sup>). The total area to be affected will be approximately 76 m<sup>2</sup>.

Alternative A3 (if any)

**m<sup>2</sup>**

or, for linear activities:

**Alternative:**

Alternative A1 (preferred activity alternative)

**Length of the activity:**

Watershed-Sephaku 132kV line (110m);  
 Watershed-Klerksdorp North 132kV line (85m);  
 Watershed-Makokstraal 132kV line (310m); and  
 Watershed-Zeerust 132kV line (1100m)

Alternative A2 (if any)

Watershed-Sephaku 132kV line (~75m);  
 Watershed- Klerksdorp North 132kV line (~86m);  
 Watershed-Makokstraal 132kV line (~72m); and  
 Watershed-Zeerust 132kV line (~55m)

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<sup>1</sup> "Alternative A.." refer to activity, process, technology or other alternatives.

## BASIC ASSESSMENT REPORT

Alternative A3 (if any)

**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) Approximately 23280 m<sup>2</sup>

Eskom Watershed Substation property

Alternative A2 (if any) Approximately 23280 m<sup>2</sup>

As stated above, the preferred study area is within the boundaries of Eskom Watershed substation property; however addition portions of land will be required from two adjacent properties (R/E of portion 1 of the farm Lichtenburg Town and Townlands 27 IP and R/E of portion 0 of the farm Priem 30 IP) in order to accommodate some of the lines that run beyond the Eskom property. The exact size of the affected land from the adjacent properties cannot be determined at this stage.

Alternative A3 (if any)

### 4. SITE ACCESS

Does ready access to the site exist?

YES ✓

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

There is an existing surfaced access road to the site. However, a permanent access road will be constructed for the operation and service maintenance of the proposed facility and associated infrastructures. The planned access road will be approximately 350 meters in length and less than 8 meters wide.

Describe the type of access road planned:

A new permanent road will be required as part of this application. The new access road is unlikely to exceed 8m in width and will be taken from the nearest existing access point. The potential impact on existing and potential new access tracks will be assessed in this Basic Assessment Report

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 DWA);
- 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):

<b>1. Is the activity permitted in terms of the property's existing land use rights?</b>	YES ✓		Please explain
The proposed project is located within the Watershed SS property. The property is zoned as industrial and is owned by Eskom, the applicant.			
<b>2. Will the activity be in line with the following?</b>			
<b>(a) Provincial Spatial Development Framework (PSDF)</b>	YES	NO	Please explain
Unknown. No planning frameworks were specifically identified for this area.			
<b>(b) Urban edge / Edge of Built environment for the area</b>	YES ✓		Please explain
The proposed project is located within the existing Watershed SS property.			
<b>(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?).</b>	YES ✓		Please explain
The proposed project will not have any negative impacts with regards to IDP and SDF of the Local Municipality. A temporary and limited amount of unskilled labour may be required for the powerline construction which could contribute to one of the employment objectives in this local municipality.			
<b>(d) Approved Structure Plan of the Municipality</b>	YES	NO	Please explain
Unknown. An approved Structure Plan could not be found.			
<b>(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?)</b>	YES ✓		Please explain
The project activity will not have any negative impacts on the EMF, and management and mitigation measures have been recommended in order to minimise and manage any impacts on the environment in the vicinity of the tower locations.			
<b>(f) Any other Plans (e.g. Guide Plan)</b>		NO ✓	

## BASIC ASSESSMENT REPORT

<p><b>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)?</b></p>	<p>YES✓</p>		<p>Please explain</p>
<p>Unknown. An approved SDF could not be found.</p>			
<p><b>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.)</b></p>	<p>YES✓</p>		<p>Please explain</p>
<p>The proposed construction will provide some unskilled labour opportunities to the local community during the construction phase.</p>			
<p><b>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.)</b></p>	<p>YES✓</p>		<p>Please explain</p>
<p>All the necessary services with adequate capacity are currently available and there won't be any need for additional capacity to be created to cater for the proposed development.</p>			
<p><b>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.)</b></p>	<p>YES</p>	<p>NO</p>	<p>Please explain</p>
<p>Comment by the relevant Municipality in this regard will be attached as part of the Final Basic Assessment Report.</p>			
<p><b>7. Is this project part of a national programme to address an issue of national concern or importance?</b></p>	<p>YES✓</p>		<p>Please explain</p>
<p>Eskom generates approximately 95% of the electricity used in South Africa and approximately 45% of the electricity used in Africa. Eskom generates, transmits and distributes electricity to industrial, mining, commercial, agricultural and residential customers and redistributors. The majority of sales are in South Africa, therefore additional power stations and major power lines are built to meet the rising electricity demand. Eskom is responsible for the provision of reliable (i.e. stable) and affordable power to South Africa.</p> <p>In order to provide a high quality supply of electricity to meet the ever increasing needs of its end users and to support annual load growth, Eskom proposes to relocate their four 132kV lines within the foot print of the existing Watershed substation.</p>			

## BASIC ASSESSMENT REPORT

<b>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.)</b>	YES✓		Please explain
The proposed activity will occur within the Eskom Watershed substation property where there are already existing powerlines. The proposed activity is therefore in line with the current land use.			
<b>9. Is the development the best practicable environmental option for this land/site?</b>	YES✓		Please explain
As mentioned above, the proposed activity will occur within Eskom Watershed substation property with already existing powerlines. It is expected that the current land-use can continue in the area without being significantly affected by this project.			
<b>10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?</b>	YES✓		Please explain
The benefits of the proposed land use (improving infrastructure to meet increased energy demands in order to ensure adequate supply of electricity) will outweigh negative impacts.			
<b>11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?</b>		NO✓	Please explain
The proposed project is line with the current land use.			
<b>12. Will any person's rights be negatively affected by the proposed activity/ies?</b>		NO✓	Please explain
No human rights will be infringed upon by the proposed construction of these 132kV lines. Notification letters were sent out to affected landowners as well as key Interested and Affected parties with regards to the proposed project and no objections have been lodged against the proposed project to date.			
<b>13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?</b>		NO✓	Please explain
No, the 'urban edge' will not be comprised.			
<b>14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?</b>	YES✓		Please explain
The proposed project will support SIP 10 Electricity Transmission and Distribution. SIP 10 aims to expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development			
<b>15. What will the benefits be to society in general and to the local communities?</b>	Please explain		
This proposed 132kV lines are important in order to meet increased energy demands and to ensure adequate supply of electricity. Furthermore, a few unskilled labour opportunities will be available to the local community during construction.			
<b>16. Any other need and desirability considerations related to the proposed activity?</b>	Please explain		
There is no other need and desirability considerations related to the proposed activity except the one already expressed above which is to improve infrastructure in order to meet increased energy demands and to ensure adequate supply of electricity.			

## BASIC ASSESSMENT REPORT

<b>17. How does the project fit into the National Development Plan for 2030?</b>	Please explain
The project is in line with the Government's vision of creating more jobs, providing electricity, and expanding infrastructure within the country.	
<b>18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.</b>	
EIMS (Pty) Ltd have been appointed by Eskom to undertake the Basic Assessment Process and the Environmental Management Programme in order to identify and address any impacts (positive and negative) that the proposed development might have on the natural environment.	
<b>19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.</b>	
An application to undertake a Basic Assessment has been submitted to the Competent Authority (the National Department of Environmental Affairs - DEA) prior to the undertaking of the Basic Assessment process. The BAR has ensured that potential disturbance to the environment and ecosystems would be minimised, and where possible mitigated. The specialist studies undertaken assessed the ecological impact, as well as the cultural heritage impact that the activity could have.	

### 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:

<b>Title of legislation, policy or guideline</b>	<b>Applicability to the project</b>	<b>Administering authority</b>	<b>Date</b>
Minerals and Petroleum Resources Development Act (Act No. 28 of 2002)	The project involves the removal of minerals (soil).	Department of Mineral Resources	2002
National Environmental Management Act (Act No. 107 of 1998) - and associated Regulations (2010)	Decision- making authority as the construction of the four towers triggers listed activities that require a basic Assessment process to be followed.	Department of Environmental Affairs	1998
National Environmental Management: Air Quality Act (Act No. 39 of 2004)	During the construction phase, dust will be generated.	Department of Environmental Affairs	2004
National Environmental Management: Waste Act (Act No. 59 of 2008) - and associated Regulations	During the construction phase, waste will be generated.	Department of Environmental Affairs	2008
National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	During the construction phase, some natural vegetation and fauna may be affected.	Department of Environmental Affairs	2004
South African National Heritage Resources Act (Act No. 25 of 1999)	During the construction phase, resources with historical and/or cultural significance may be affected.	South African National Heritage Resources Authority.	1999

**12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT**

**a) Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?	YES ✓	
If YES, what estimated quantity will be produced per month?	Unknown	
Due to the early stage of the activity, the amount of solid waste that will be produced is uncertain.		

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

A licensed waste disposal service provider will be utilised to collect and transport all general construction solid waste from the construction sites and dispose of these at a relevant and suitably licensed disposal facility. The waste will be managed in accordance with the EMPR (refer to Appendix G)
---

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

The solid waste from construction activities will be disposed of at a suitably licensed disposal facility
---

Will the activity produce solid waste during its operational phase?		NO ✓
A negligible amount of solid waste will be produced during the operational phase as a result of periodic maintenance and this will be disposed of at a registered waste landfill site in Lichtenburg, North West Province.		

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

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

Any solid waste that may be produced during the operational phase will be disposed at the registered general waste landfill facility.
---

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

Ditsobotla Local Municipality's registered landfill site or other suitably licensed facility within the area.
---

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

All solid wastes will be disposed of at relevant registered and licensed waste disposal sites.
--

*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?		NO ✓
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Any hazardous waste (e.g. fuel spills, oils, pesticides, herbicides) that is produced during the construction phase of the project, is likely to be of limited volume and will be collected by a licensed hazardous waste disposal service provider and disposed of at the nearest registered disposal site for hazardous material. It is understood that the application of certain products utilised on a typical construction site and disposal of small spills and packaging is unlikely to trigger the need for a full EIA and/or Scoping or a waste management licence. The waste will be managed in accordance with the EMPR (refer to Appendix G)
---

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.

## BASIC ASSESSMENT REPORT

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Is the activity that is being applied for a solid waste handling or treatment facility?  NO ✓

If YES, then the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA. 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?  NO ✓

Chemical toilets will be utilised during construction, and the sewage effluent will be collected and transported by a licensed waste disposal service provider to the municipal sewage system.

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

Will the activity produce any effluent that will be treated and/or disposed of on site?  NO ✓

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

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

If YES, provide the particulars of the facility:

Facility name:

Contact

person:

Postal

address:

Postal code:

Telephone:

E-mail:

Cell:

Fax:

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

The proposed facility is not anticipated to produce waste water during operation phase, however waste management during construction will be in accordance with the EMPR (refer to Appendix G).

### c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other than exhaust emissions and dust associated with construction phase activities?  NO ✓

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

Dust and vehicular emissions will be produced during the construction phase. The potential air quality impacts have been identified and assessed in this report. All air emissions will be within the stipulated limits and guidelines and are not anticipated to trigger the need for any further permits or licences.

### d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms  NO ✓

## BASIC ASSESSMENT REPORT

of the NEM:WA?

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?

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

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

If NO, describe the noise in terms of type and level:

During both the construction and operational phases noise will be generated. During the construction phase the noise will be generated from moving construction vehicles and construction machinery. However, the noise levels will be localised and temporary and will be limited to working hours. Noise impact during construction phase has been identified and assessed in this report and it will be managed in accordance with the EMPR (refer to Appendix G).

### 13. WATER USE

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

Municipal

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

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

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

No drainage areas and watercourses exist within the proposed site, however the relevant Department of Water Affairs officials have been registered as Key I&AP's and have been invited to comment on the proposed project.

### 14. ENERGY EFFICIENCY

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

No specific energy efficiency design measures have been proposed for this application.

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

No specific alternative energy sources have been identified for this application. The proposed construction and operation of the lines is not anticipated to have a significant energy demand.



## SECTION B: SITE/AREA/PROPERTY DESCRIPTION

### Important notes:

- 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.

The proposed site is small in size. Therefore it is not deemed necessary to split the area description, as the information provided will be sufficient for an informed decision to be made.

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

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

- Has a specialist been consulted to assist with the completion of this section?  YES  NO  
 If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed and attach it in Appendix I. All specialist reports must be contained in Appendix D.

**Property description/physical address:**

<b>Province</b>	North West Province
<b>District Municipality</b>	Ngaka Modiri Molema District Municipality
<b>Local Municipality</b>	Ditsobotla Local Municipality
<b>Ward Number(s)</b>	Ward 14
<b>Farm name and number</b>	Lichtenburg Town and Townlands 27 IP; and Priem 30 IP
<b>Portion number</b>	Portions 50 and remaining extent (R/E) of portion 1 of the farm Lichtenburg Town and Townlands 27 IP; Remaining extent of portion 0 of the farm Priem 30 IP
<b>Alternative 1</b>	Portion 50 of the farm Lichtenburg Town and Townlands 27 IP
<b>Alternative 2</b>	Remaining Extent of portion 1 of the farm Lichtenburg Town and Townlands; and Remaining Extent of portion 0 of the farm Priem 30 IP
<b>SG Code</b>	T0IP00000000002700050 T0IP00000000002700001 T0IP00000000003000000

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:**

Industrial
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## BASIC ASSESSMENT REPORT

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?

	NO ✓
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### 1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

**Alternative S1:**

Flat ✓	
--------	--

**Alternative S2 (if any):**

Flat ✓	
--------	--

**Alternative S3 (if any):**

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### 2. LOCATION IN LANDSCAPE

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

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

### 3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

## BASIC ASSESSMENT REPORT

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

### 4. GROUNDCOVER

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

Natural veld - good condition <sup>E</sup> ✓	
--	--

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

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

--

**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 ✓	
Other land uses (describe) ✓ (Eskom Watershed substation)	

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

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

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:

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

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

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:

NO ✓

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:

During the heritage impact assessment undertaken by a heritage specialist, Jennifer Kitto from PGS Heritage (PGS), no heritage sites of significance were identified in the study area foot print. However, the desktop Paleontological Impact Assessment study identified the existence of geology that is likely to contain fossiliferous material that could be impacted by the proposed development.

As stated above, no sites of heritage significance were observed within the proposed site. However, due to the subterranean nature of most archaeological sites (including graves), it is possible that some sites may be identified during site-clearing, excavation or other construction activities.

The establishment of the proposed 132kV lines will not have a negative influence on the cultural landscape or characteristics of the area in the long term. Short term impacts will only be during construction and will be for the duration of the construction timeframe. Screening of construction activities as per usual construction requirements is recommended.

The overall impact of the development on heritage resources is seen as acceptably low and impacts can further be mitigated to acceptable levels.

Will any building or structure older than 60 years be affected in any way?

NO ✓

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

NO ✓

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

**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:

According to Statistics South Africa (2011) the Ditsobotla Local Municipality which forms part of the Nkanga Modiri District Municipality has a population of 168 902 people of which 28.30% of the total population is unemployed. The majority of the population is the youth (aged between 15 – 35 years) and they contribute 37% of the unemployment rate.

## BASIC ASSESSMENT REPORT

Economic profile of local municipality:

The main economic sectors in the Ditsobotla Local Municipality are manufacturing and mining. Other economic sectors include wholesale and retail trade. Manufacturing is concentrated around Lichtenburg, where non-metallic mineral products are manufactured in association with large national cement companies in the area.

Level of education:

Education and skills level are generally low. Only 20% of the total population have a matric certificate and only 6.7% of those with matric attained higher education.

### b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R105 million excluding Interest during construction
What is the expected yearly income that will be generated by or as a result of the activity?	R95 million
Will the activity contribute to service infrastructure?	YES ✓ <input type="checkbox"/>
Yes, the activity will contribute to service infrastructure in terms of electrical power supply.	
Is the activity a public amenity?	YES ✓ <input type="checkbox"/>
The proposed project will be a public amenity because it will improve the electricity supply within the area and the province in general.	
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	± 40
What is the expected value of the employment opportunities during the development and construction phase?	R5 million
What percentage of this will accrue to previously disadvantaged individuals?	60%
How many permanent new employment opportunities will be created during the operational phase of the activity?	None
What is the expected current value of the employment opportunities during the first 10 years?	0
What percentage of this will accrue to previously disadvantaged individuals?	0%

## 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](mailto: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.

BASIC ASSESSMENT 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
	The proposed site is in close proximity to the Lichtenburg Game Breeding Centre and thus has contributed to the proposed site being classified in the North-West Province Biodiversity Conservation Assessment as having elevated conservation value.

- 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	65%	<p>The study site is predominately covered with natural vegetation (Grasslands and isolated woodlands) with the presence of the Watershed substation and its associated infrastructure (access road and existing powerlines).</p> <div style="text-align: center;">  </div> <p><b>Figure 4: View of the natural vegetation within and around the study area (Hoare; 2013)</b></p>
Near Natural (includes areas with low to moderate level of alien invasive plants)	5%	Very little alien invasive plants were observed on site
Degraded (includes areas heavily invaded by alien plants)	0%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	30%	A small percentage of the habitat has been transformed by the presence of the Watershed substation and associated infrastructure. The majority of the study area has natural vegetation (Grasslands and isolated bushveld).



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)		Wetland (including rivers, depressions, channelled and unchannelled wetlands, flats, seeps pans, and artificial wetlands)		Estuary	Coastline	
	Least Threatened		NO ✓		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)

According to the Ecological assessment undertaken and a desktop study of the proposed area, the study area consists of the existing Watershed sub-station and is surrounded by natural vegetation. This is also reiterated by the heritage specialist who states that the majority of the property contains the Eskom Watershed Substation and several existing power lines. The remainder of the land is not utilised currently and consists of fairly flat terrain which is covered with secondary grassland and stands of isolated trees.

The vegetation of the study area indicates that there are two regional vegetation types occurring in the broad study area, but only one within the site and surroundings. This is Carletonville Dolomite Grassland. Almost 6 km away is the boundary of Western Highveld Sandy Grassland.

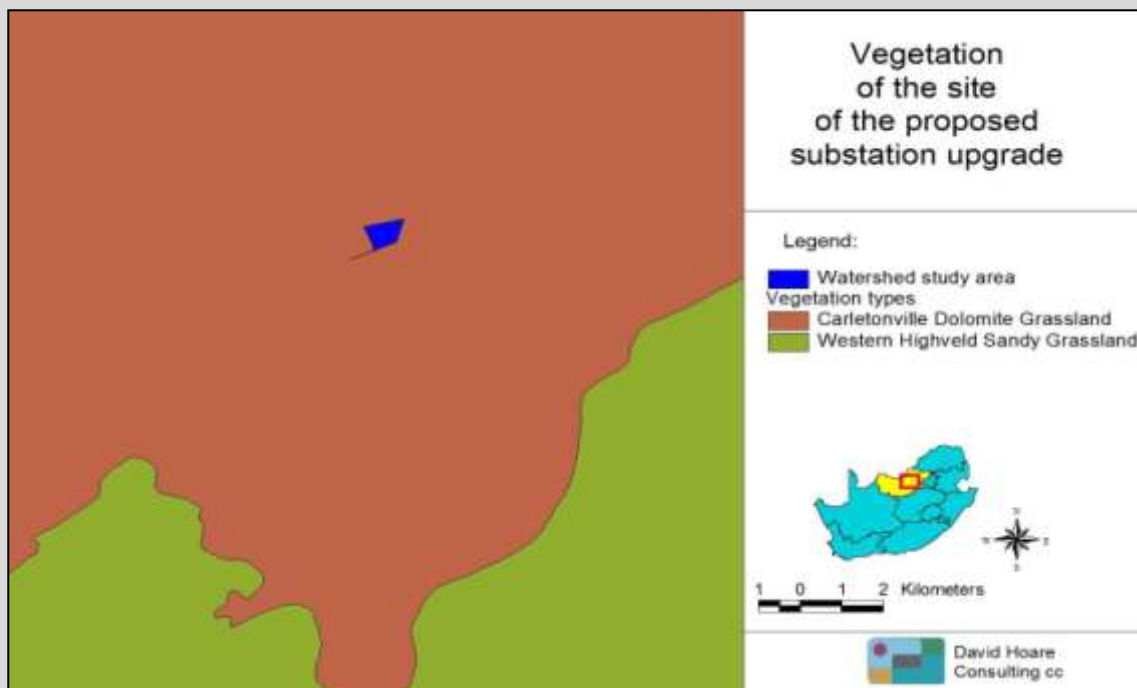


Figure 5: Vegetation type of the study area.

According to scientific literature (Driver et al. 2005; Mucina et al., 2006), Carletonville Dolomite Grassland is listed as Vulnerable. Carletonville Dolomite Grassland is however not listed in the National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011).

The proposed study site is in close proximity to the Lichtenburg Game Breeding Centre, a factor which has contributed to the site being classified in the North-West Province Biodiversity Conservation Assessment as having elevated conservation value.

There are two Declining plant species (low conservation priority) and one Vulnerable plant species (high conservation priority) that could occur in habitats that are available in the study area. None of these species were found on site and it is considered unlikely that they would occur there.

No protected trees (according to the National Forest Act) or protected plants (according to the National Environmental Management: Biodiversity Act) were found on site or are likely to occur there.

There are no threatened amphibians or reptile species of conservation concern that have a geographical distribution that includes the proposed study area and habitat requirements which are met by those found on the proposed site. There are six bird species of conservation concern that could potentially use the site, mostly for foraging. The protected species, the Brown Hyaena, Black-footed Cat, Honey Badger and some of the birds (Martial Eagle, Tawny Eagle and Lesser Kestrel) have a likelihood of occurring on site, but are all considered to be mobile animals that are unlikely to be affected by the proposed development of the proposed infrastructure.

Due to the low sensitivity of ecological receptors on site and the low significance of potential impacts, the project is supported from an ecological point of view.

Avifauna study undertaken by an avifauna specialist, Stephanie Aken from Endangered Wildlife Trust (EWT) stated that general habitats were identified in the broader area which may attract various bird species, with bushveld and grassland patches however limited micro-habitat was found within the small site. The area in general has been surveyed and the South African Bird Atlas Project data (SABAP2) recorded a total of 59 species to date comprising 4 Vulnerable and 1 Near-threatened species to date.

Following a site visit and examination of all available data, the following species were identified as Focal Species for this study: White-backed Vulture, Lesser Kestrel, Cape Vulture, Lappet-faced Vulture and Marabou Stork. No birds or bird carcasses were observed during the site visit.

It is foreseen that the proposed activities will not significantly increase the risk on the avifauna more than the infrastructure that is currently on site. It is recommended that to decrease the overall risk of bird mortalities, proposed mitigations be incorporated into the Environmental Management Programme. Line marking will be required particularly in the less disturbed grassland areas. Avifaunal input in to the EMPR (in the form of a site "walk down") is recommended in order to, "fine tune" these sensitive zones, and to identify the spans of line for marking to mitigate for bird collisions, once the alignment is chosen and the tower positions have been pegged. Electrocutions can be successfully mitigated by ensuring that a bird-friendly monopole structure is used.

## SECTION C: PUBLIC PARTICIPATION

### 1. ADVERTISEMENT AND NOTICE

<b>Publication name</b>	Noordwester Newspaper (English and Afrikaans adverts); and Mmega District News (Setswana advert)		
<b>Date published</b>	Noordwester Newspaper - 8 November 2013 Mmega District News – 13 November 2013		
<b>Site notice position</b>	<b>Latitude</b>	<b>Longitude</b>	
	Site notice 1:	-26.093057°	26.142548°
	Site notice 2:	-26.096305°	26.137165°
	Site notice 3:	-26.093027°	26.135638°
	Site notice 4:	-26.111821°	26.144830°
	Site notice 5:	-26.136440°	26.150921°
<b>Date placed</b>	7 November 2013		

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 54(2)(e) and 54(7) of GN R.543.

Key stakeholders (other than organs of state) identified in terms of Regulation 54(2)(b) of GN R.543:

<b>Title, Name and Surname</b>	<b>Affiliation/ key stakeholder status</b>	<b>Contact details (tel number or e-mail address)</b>
Mr. Eddie Seton	Transnet	eddie.seton@transnet.net
Mr. Lemson Betha	Wildlife and Environmental Society of South Africa (WESSA)	lbetha@wessanorth.co.za
Mr. M fourie	Centre for Environmental Rights (CEF)	mfourie@cer.org.za
Ms. Lekalakala Makoma	Sustainable Energy and Climate Change Project of Earthlife Africa (SECCP)	seccp@earthlife.org.za or makoma@earthlife.org.za
Ms. Liungile Motsisi	Eskom	motsisil@eskom.co.za
Mr. Dedre Herbest	Eskom	deidre.herbest@eskom.co.za
Mr. John Geeringh	Eskom	john.geeringh@eskom.co.za
Ms. Ayanda Noah	Eskom	noaha@eskom.co.za
Ms. Lizelle Stroh	South African Civil Aviation Authority	strohl@caa.co.za
Mr. Koos Pretorius	South African Civil Aviation Authority	pretoriusk@caa.co.za

## BASIC ASSESSMENT REPORT

Mr. Thulani Nzima	South African Tourism	info@southafrica.net
Mr. Tendo Ramagoma	National Heritage Council	r.ramagoma@nhc.org.za
Ms. Stephanie Aken	Endangered Wildlife Trust	stephaniea@ewt.org.za
Ms. Mpathi Makoa	South African National Road Agency Limited (SANRAL)	makoam@nra.co.za
Ms. Mmabatho Ramagoshi	South African Heritage Resources Agency (SAHRA) - National	mramagoshi@sahra.org.za
Mr. Phillip Hine	South African Heritage Resources Agency (SAHRA) - National	phine@sahra.org.za
Mr. Mosiane Motlabane	SAHRA – North West Province	mosianem@nwpg.gov.za
Ms. Tanya Abrahamse	South African National Biodiversity Institute (SANBI)	t.abrahamse@sanbi.org.za
Mr. Ulrich Oberprieler	National Zoological Garden of South Africa	ulrich@nzg.ac.za
Mr. Thulani Nzima	South African Tourism	info@southafrica.net
Mr. Shadrack Moephuli	Agricultural Research Council	enquiry@arc.agric.za
Ms. Mariette Liefferink	Federation for a Sustainable Environment	mariettel@iburst.co.za
Mr. Martin Taylor	Birdlife South Africa	tourism@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
Ms. Mariette Liefferink from Federation for a Sustainable Environment thanked EIMS for the emailed initial notification letter and advised EIMS that The Federation of a Sustainable Environment (for which she is the CEO) focuses specifically on the extractive industry and applications pertaining to the mining industry. As such Ms. Liefferink requested that she be notified on projects regarding mining related applications	Ms. Nobuhle Hughes (EAP) thanked Ms. Liefferink for responding to the notification and for the clarification regarding the types of projects the Federation for a Sustainable Environment focuses on. Ms. Hughes informed Ms. Liefferink that she has thus been excluded from the I&AP database as the said project is not mining related.

## BASIC ASSESSMENT REPORT

<p>and not EIA's that are not on mining. Ms. Liefferink inquired if the proposed project had any relevance to mining</p>	
<p>Ms. Mmabatho Ramogoshi from SAHRA thanked EIMS for the notification and informed EIMS that the relevant officials have been sent copies and will be in contact.</p>	<p>This was noted by EIMS.</p>
<p>Mr. John Geeringh from Eskom requested that EIMS contact SEF regarding an IPP development at Watershed Substation to ensure that planning does not clash.</p>	<p>Ms. Nobuhle Hughes from EIMS contacted Savannah Environmental (responsible for the Watershed solar Energy project) to request to be added to their I&amp;AP database as well as requested the contact details of the person EIMS can add to the Watershed power lines BA project I&amp;AP database in order to share information and prevent overlap or clashing of the two proposed developments. Ms. Gabrielle Wood from Savannah Environmental provided EIMS a registration form to submit towards registering on the Watershed Solar project's database as well as her contact details to be included in the watershed power lines BA project. EIMS added Ms. Wood on the Watershed power lines BA project and returned the completed registration form to Ms. Wood for inclusion in the Watershed solar project.</p>
<p>Birdlife SA Policy and Advocacy thanked EIMS for the notification received on the 14th November 2013 regarding the proposed construction of 132kV lines at the Watershed SS near Lichtenburg. Birdlife SA only registers and comments on applications that fall within or adjacent to Important Bird and Biodiversity Areas (IBAs), or for very large projects that could have a significant impact on birds. As this project does not meet these criteria, Birdlife SA hereby declines EIMS's invitation to register and comment during the EIA process.</p>	<p>Ms. Nobuhle Hughes from EIMS acknowledged receipt of the clarification of projects of interest to Birdlife SA, and informed that as per their request Birdlife SA has been removed from the Interested and Affected Parties database.</p>
<p>The office (Transnet office) cannot make an informed comment from the information supplied such as information on where the crossing of Transnet land will occur (i.e. no kilometer or coordinate values given or if Transnet property will be crossed). In principal, the Transnet Property office has no objection to a crossing</p>	<p>Ms. Nobuhle Hughes from EIMS thanked Transnet Property from responding to the initial notification and furnished Mr. Wentzel Radcliffe and Mr. Andre Bodenstein with the proposed project's layout, highlighting that the majority of the proposed activity is within Eskom property with only two other landowners that may be</p>

## BASIC ASSESSMENT REPORT

only to request that in the event of any construction work Transnet's cadastral boundary beacons should not be removed or disturbed. In the event of this occurring, the Transnet Property office must be contacted immediately.	affected which do not include Transnet. EIMS further included site notification with coordinates of the Eskom property boundary for ease of reference.
Kindly register the South African Aviation Authority as an I&AP regarding the Construction of proposed 132kV lines at the Watershed Substation project. Contact details of the responsible person were provided.	Ms. Nobuhle Hughes from EIMS thanked Mr. Harry Roberts for responding to the initial notification about the project, and informed him that the South African Aviation Authority under the contact details provided has been registered for the project.
SANBI responded to the initial notification in the form of a letter requesting to be excluded as a commenting authority as well as from the I&AP database. The details of the letter are available in the proof of correspondence or upon request.	Ms. Nobuhle Hughes from EIMS thanked SANBI for responding to the initial notification and for clarifying their criteria for involvement in Environmental Authorisation applications. As requested EIMS has excluded SANBI as the commenting authority as well as from the I&AP database.

#### 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.

BASIC ASSESSMENT REPORT

**5. AUTHORITY PARTICIPATION**

Authorities and organs of state identified as key stakeholders:

<b>Authority/Organ of State</b>	<b>Contact person (Title, Name and Surname)</b>	<b>Tel No</b>	<b>Fax No</b>	<b>e-mail</b>	<b>Postal address</b>
Ngaka Modiri Molema District Municipality	Clr. Phaladi Saku	018 381 9407	018 381 1790	executivemayor@nmmdm.gov.za	Private Bag X2167 Mafikeng 2745
Ngaka Modiri Molema District Municipality	Mr. Mokgale Mojali	018 381 9405	018 381 1790	municipalmanager@nmmdm.gov.za	Private Bag X2167 Mafikeng 2745
Ngaka Modiri Molema District Municipality	Mr Vincent Dila	018 381 9406	018 381 4360	speaker@nmmdm.gov.za	Private Bag X2167 Mafikeng 2745
Ditsobotla Local Municipality	Mr. Lesego Hole	018 632 5051	018 632 5247	lerato.diseko@gmail.com/sellokhoza@gmail.com	P. O. Box 7 Lichtenburg 2740
Ditsobotla Local Municipality	Ms. Tshiamo Lethogile	018 632 6955	018 632 5247	lethogilet@ditsobotla.co.za	P. O. Box 7 Lichtenburg 2740
Ditsobotla Local Municipality	Mr. Phogisho Maitshotlo	018 632 3888	018 632 5247	pjmaitshotlo@gmail.com	P. O. Box 7 Lichtenburg 2740
Ditsobotla Local Municipality	Mr. Buti Moheta	018 632 6955	018 632 5247		P. O. Box 7 Lichtenburg 2740
National Department of	Ms. Thoko Buthelezi	012 319 7634		thokob@daff.gov.za	Private Bag X120



## BASIC ASSESSMENT REPORT

Agriculture, Forestry and Fisheries					Pretoria 0001
National Department of Agriculture, Forestry and Fisheries	Ms. Mumsy Gazide	012 319 7620	012 319 7593	MumsyG@nda.agric.za	Private Bag X120 Pretoria 0001
North West Department of Agriculture, Rural Development and Land Administration	Mr. Poncho Mokaila	018 389 5147 / 5431	018 392 4317	pmokaila@nwpg.gov.za	Private Bag X2039 Mmabatho 2735
National Department of Rural Development and Land Reform	Mr. Vela Mngwengwe	012 312 9862	012 326 9213	VZMngwengwe@ruraldevelopment.gov.za	Private Bag X833 Pretoria 0001
National Department of Rural Development and Land Reform	Mr. Gugile Nkwinti	012 312 9300	012 323 3306	nnotshe@ruraldevelopment.gov.za	Private Bag X833 Pretoria 0001
North West Department of Rural Development and Land Reform	Mr. Lengabe Bogatsu	018 392 3080	018 392 3083	LJBogatsu@ruraldevelopment.gov.za	Private Bag X74 Mmabatho 2735
North West Department of Economic Development, Environment, Conservation and Tourism	Mr. Stephen Mukhola	018 389 5956	086 659 4060	smukhola@nwpg.gov.za	Private Bag X2039 Mmabatho 2735
North West Department of Economic Development, Environment, Conservation and Tourism	Mr. Abbey Tlaetsi	018 387 7860	018 387 7901	ssekoto@nwpg.gov.za	Private Bag X15 Mmabatho 2735
North West Department of Economic Development, Environment, Conservation and Tourism	Ms. Mosadi Malefyane	018 389 5677	018 389 5006	oskosana@nwpg.gov.za	Private Bag X15 Mmabatho 2735

## BASIC ASSESSMENT REPORT

North West Department of Human Settlement, Public Safety and Liaison	Mr. O.E. Mongale	018 388 4838	018 620 7825	omongale@nwpg.gov.za	Private Bag X2099 Mmabatho 2735
National Department of Local Government and Traditional Affairs	Mr. Charles Nwaila	012 336 5824	086 274 9000	charlesn@cogta.gov.za	Private Bag X804 Pretoria 0001
North West Department of Local Government and Traditional Affairs	Mr. Monnapula Motlogelwa	018 387 3746	018 384 5426	mmotlogelwa@nwpg.gov.za	Private Bag X2099 Mmabatho 2735
National Department of Public Works	Mr. Mziwonke Dlabantu	012 406 1000	086 276 8663	dg.pa@dpw.gov.za	Private Bag X65 Pretoria 0001
North West Department of Public Works, Roads and Transport	Mr. Samuel Mokgothi	018 388 1435	018 387 2443	mthobakgale@nwpg.gov.za	Private Bag X2080 Mmabatho 2735
National Department of Water Affairs	Mr. Molese Morokane	012 336 8697	012 323 0321	vgk@dwaf.gov.za / morokaneM@dwa.gov.za	Private Bag X313 Pretoria 0001
North West Department of Water Affairs	Ms. A Abrahams	018 387 9547	018 384 2059	LobakengC@dwa.gov.za	Private Bag X5 Mmabatho 2735
North West Department of Water Affairs	Mr. L Bogopa	018 387 9564	018 384 2059	BogopaL@dwa.gov.za	Private Bag X5 Mmabatho 2735

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

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

### **6. CONSULTATION WITH OTHER STAKEHOLDERS**

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation to the extent and in the manner as may be agreed to by the competent authority.

Proof of any such agreement must be provided, where applicable. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

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

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

## SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### 1. 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.

The following impacts were identified by the specialists and were assessed in this Basic Assessment Report:

#### Construction phase:

- Disturbance, destruction and damages to heritage resources;
- Impact on paleontological resources;
- Impact on cultural landscapes;
- Loss/fragmentation of natural vegetation;
- Impacts on threatened plants;
- Loss/fragmentation of habitat for threatened terrestrial fauna;
- Disturbance to birds;
- Habitat destruction;
- Establishment and spread of declared weeds and alien invader plants;
- Dust Pollution;
- Noise pollution;
- Soil and water (surface and ground) pollution;
- Waste Generation;
- Employment creation; and
- Erosion.

#### Operational Phase:

- Disturbance during routine maintenance;
- Avifaunal Collisions;
- Avifaunal electrocutions;
- Establishment and spread of declared weeds and alien invader plants;
- Fire hazards; and
- Potential impacts of transformer oils

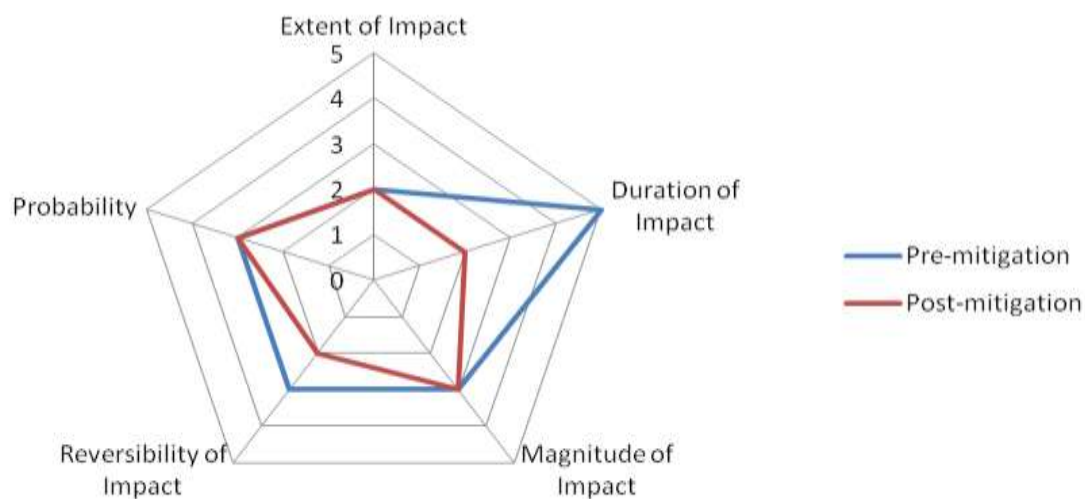
#### Decommissioning Phase:

- Waste management and disposal

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Disturbance, destruction and damages to heritage resources</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>No sites of heritage significance were located within the study area. However, due to the subterranean nature of most archaeological sites (including graves), and the dense vegetation on the north-western side of the study area, it is possible that some sites may be identified during site-clearing or construction activities.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-9.75</b>
Environmental Risk (Post-mitigation)	<b>-6.75</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Should any heritage objects be exposed during excavation, work on that area should cease immediately and the historian be informed immediately. All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made.*

### Impact Prioritisation

Public Response	1.00
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*No responses were received on this issue during the public consultation process.*

Cumulative Impacts	1.00
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*It is unlikely that this impact will result in cumulative spatial and temporal change.*

Degree of potential irreplaceable loss of resources	3.00
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*This impact is unlikely to result in irreplaceable loss of resources.*

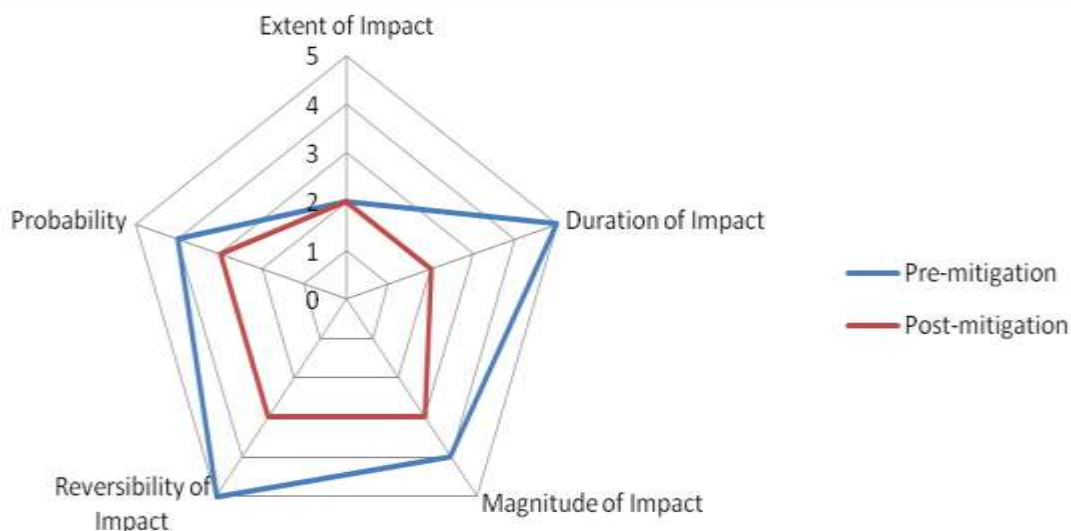
Prioritisation Factor	1.33
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<b>Final Significance</b>	<b>-9.00</b>
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## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Impact on paleontological resources</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>There is a known occurrence of stromatolites within the dolomite of the Monte Christo Formation, as well as the possibility of Cave Breccias being present in the proposed study area.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-16.00</b>
Environmental Risk (Post-mitigation)	<b>-7.50</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*The developer and the ECO of the project must be informed of the fact that Stromatolites have been recorded from the Monte Christo Formation and it is also possible that Caenozoic cave deposits may be present. If fossils are observed, a trained palaeontologist must be appointed to collect the fossils according to SAHRA specifications.*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>If mitigation measures are applied then the cumulative impact is anticipated to be low.</i>	
Degree of potential irreplaceable loss of resources	3.00
<i>This impact may result in the irreplaceable loss of resources if not managed adequately</i>	
Prioritisation Factor	1.33
Final Significance	<b>-10.00</b>

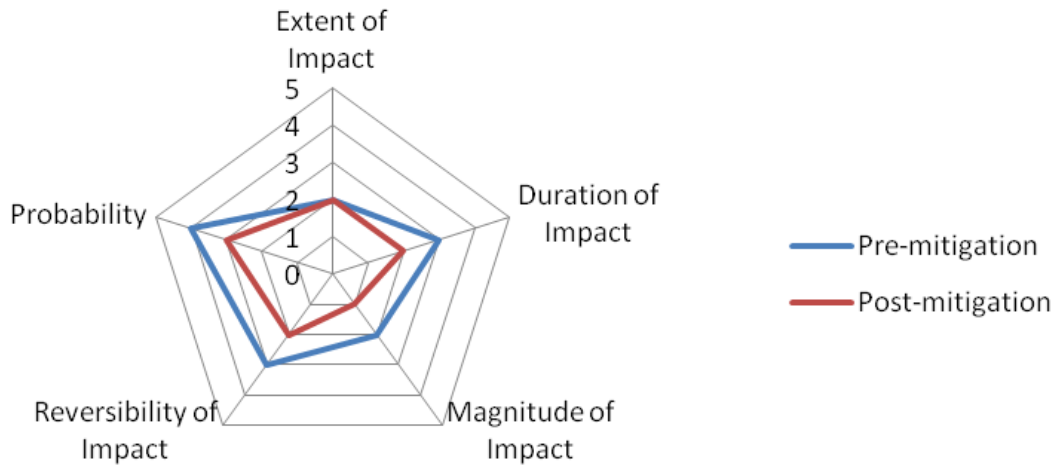
## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Impact on cultural landscapes</i>	
<b>Phase:</b>	<i>Construction</i>	
<b>Alternative:</b>	<i>S1 and S2</i>	
<b>Description of impact:</b>	<p><i>Heritage significance of the cultural landscape is derived from the interaction between the natural landscape, and that landscape as created and changed by man and influenced by the construction of roads, bridges, farming landscapes (such as grazing fields, farmsteads, etc) and townscapes. Also interacting with these physical entities are intangible and historic landscapes and events that are known to have added to the cultural fabric of a place or area. Since the landscape of the proposed study area is already highly disturbed with the existing substation and power lines, the establishment of the proposed four additional power lines will not have a negative influence on the cultural landscape or characteristics of the area in the long term. Short term impacts will only be during construction and will be for the duration of the construction timeframe. Screening of construction activities as per usual construction requirements is recommended.</i></p>	
<b>Environmental Risk</b>		
Environmental Risk (Pre-mitigation)		<b>-13.00</b>
Environmental Risk (Post-mitigation)		<b>-4.50</b>
Degree of confidence in impact prediction:	Medium	
<b>Recommended Mitigation Measures</b>		
<p><i>Screening of construction activities as per usual construction requirements is recommended. Monitoring of excavation activity by a palaeontologist may be necessary, depending on the size and depth of the footprint of the pylons to be used.</i></p>		
<b>Impact Prioritisation</b>		
Public Response		1.00
<p><i>No responses were received on this issue during the public consultation process.</i></p>		
Cumulative Impacts		1.00
<p><i>If mitigation measures are applied then the cumulative impact is anticipated to be low.</i></p>		
Degree of potential irreplaceable loss of resources		3.00
<p><i>This impact is unlikely to result in irreplaceable loss of resources.</i></p>		
Prioritisation Factor		1.33
<b>Final Significance</b>		<b>-6.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Loss/fragmentation of natural vegetation</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1</i>
<b>Description of impact:</b>	<i>A small section of natural vegetation is potentially affected. The main impact of the powerline is due to construction of the tower structures, each of which occupies only a very small local footprint (approximately 1m<sup>2</sup> around each foot).</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-10.00</b>
Environmental Risk (Post-mitigation)	<b>-5.25</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Use existing service roads / access roads.  
 Keep impacts within servitude of the powerline.  
 Clear only necessary footprint of tower structures.  
 Rehabilitate disturbed areas as soon as possible*

### Impact Prioritisation

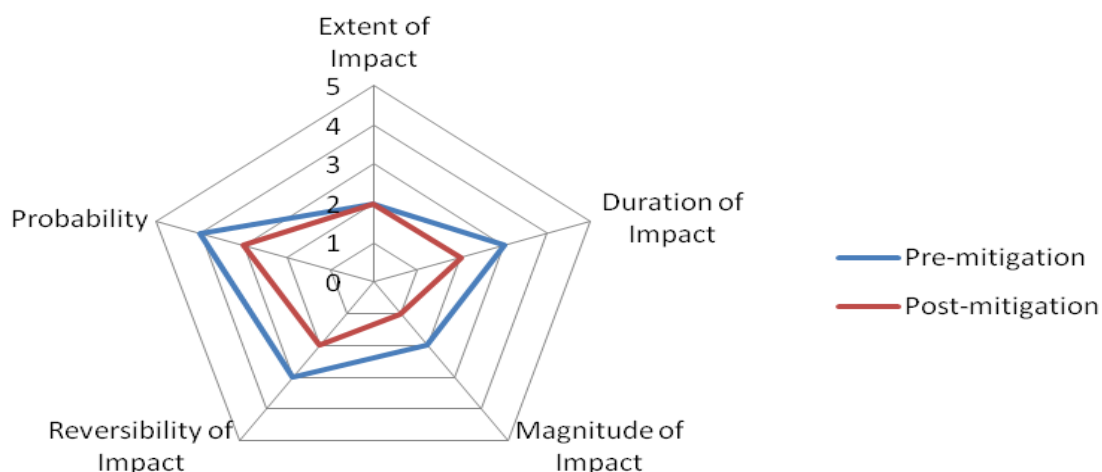
Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	2.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	2.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.33
<b>Final Significance</b>	<b>-7.00</b>



## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Loss/fragmentation of natural vegetation</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S2</i>
<b>Description of impact:</b>	<i>Natural vegetation will be affected on the pristine land of the two properties neighbouring the Eskom property if this site is considered. It should however be noted that the main impact of the powerline is due to construction of the tower structures, each of which occupies only a very small local footprint (approximately 1m<sup>2</sup> around each foot).</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	-17.50
Environmental Risk (Post-mitigation)	-9.00
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Use existing service roads / access roads (existing transmission powerline).  
 Keep impacts within servitude of the powerline.  
 Clear only necessary footprint of tower structures.  
 Rehabilitate disturbed areas as soon as possible*

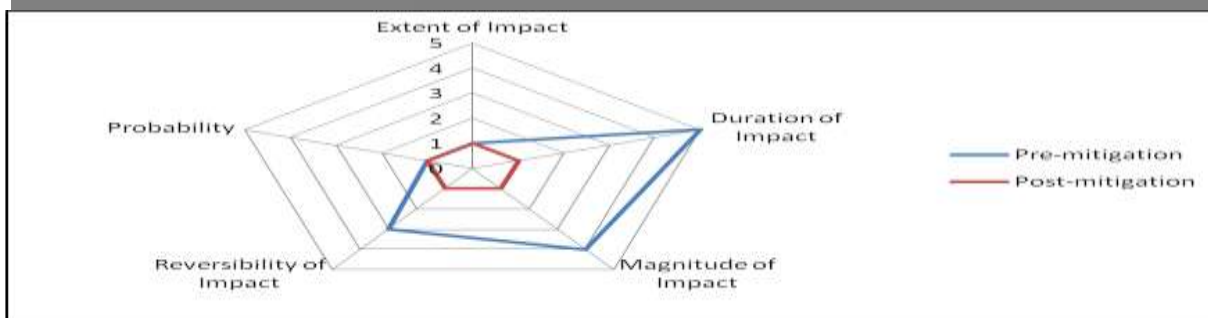
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	2.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	2.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.33
<b>Final Significance</b>	<b>-9.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Impacts on threatened plants</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>A small section of natural vegetation is potentially affected. The main impact of the powerline construction is due to construction of the tower structures, each of which occupies only a very small local footprint (approximately 1m<sup>2</sup> around each foot). Populations of plant species of concern are not likely considered to be affected.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-3.25</b>
Environmental Risk (Post-mitigation)	<b>-1.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Minimize the extent of vegetation removal to the construction footprint only. Avoid unnecessary impacts on natural vegetation. Impacts should be contained, as much as possible, within the servitude of the proposed development. The removal, damage or disturbance of any flora within or outside the construction area is not permitted unless specifically authorised by the ECO. Vegetation clearing shall take place in a phased (if possible) manner in order to retain vegetation cover for as long as possible. Search and rescue activities for bulbous plants and other sensitive areas identified during the Impact Assessment process. These plants are to be stored in a designated nursery until they can be re-introduced to the area. All plants must be well documented throughout the search and rescue to enable correct relocation. License application is required for the removal and destruction of protected species through the provincial Department of Environmental Affairs and the Department of Forestry. Rehabilitation and re-vegetation of the disturbed areas should be done immediately after completion of a particular section of construction with indigenous species and should be done to the satisfaction of the ECO and the DEA.*

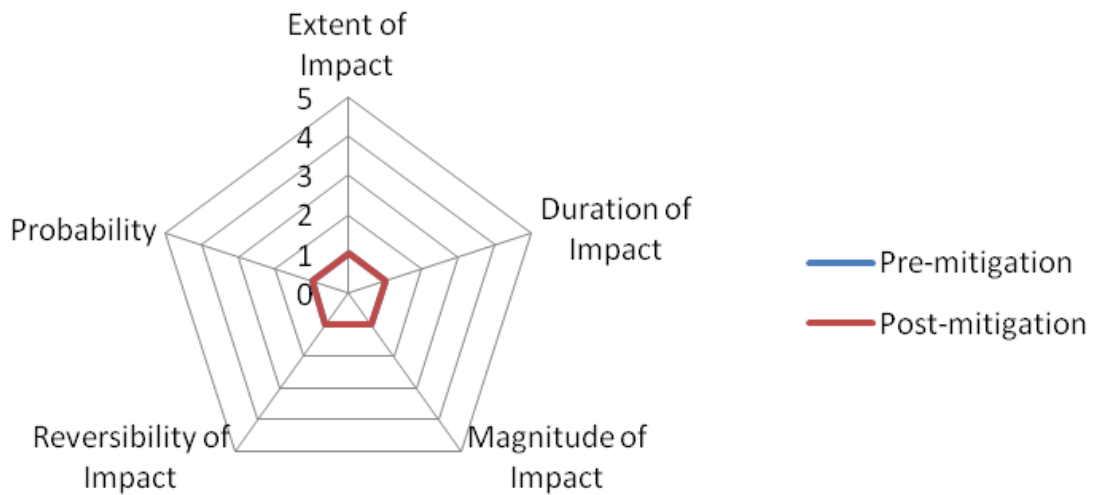
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	2.00
<i>This impact may result in the irreplaceable loss of resources if not managed adequately</i>	
Prioritisation Factor	1.17
<b>Final Significance</b>	<b>-1.17</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Loss/fragmentation of habitat for threatened terrestrial fauna</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>A small section of natural vegetation is potentially affected. These habitats may potentially be used by a relatively small number of threatened or protected animal species, all of which are highly mobile species.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-1.00</b>
Environmental Risk (Post-mitigation)	<b>-1.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Clearing should be undertaken when it is necessary and only within the development footprint.*

### Impact Prioritisation

Public Response	1.00
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*No responses were received on this issue during the public consultation process.*

Cumulative Impacts	2.00
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*If mitigation measures are applied then the cumulative impact is anticipated to be low.*

Degree of potential irreplaceable loss of resources	1.00
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*This impact is unlikely to result in irreplaceable loss of resources.*

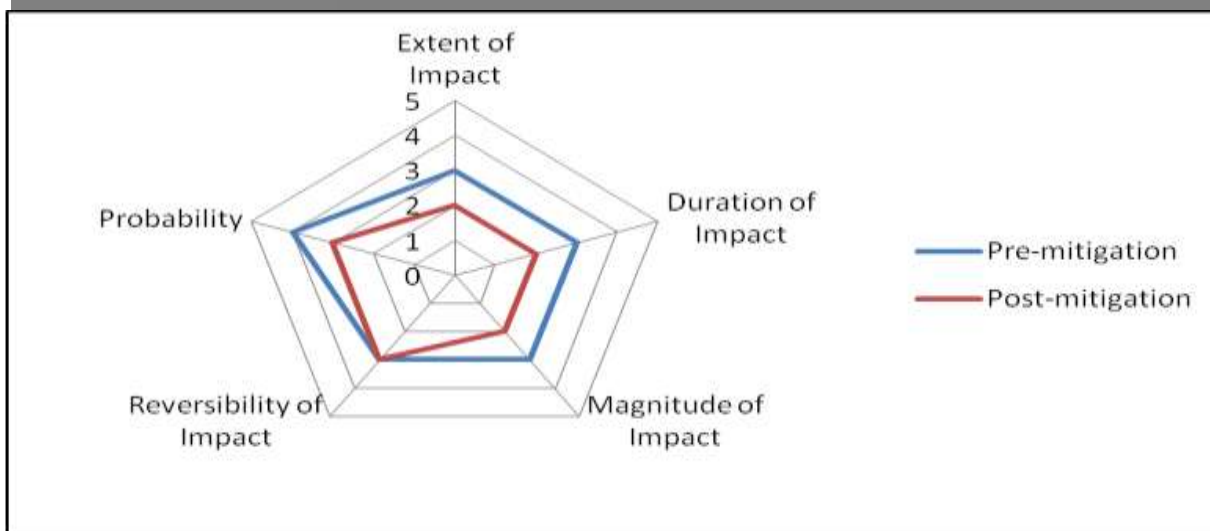
Prioritisation Factor	1.17
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<b>Final Significance</b>	<b>-1.17</b>
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## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Disturbance to birds</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>Construction activities impact on bird through disturbance, particularly during bird breeding activities. Disturbance of birds is anticipated to be of Low Significance.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-12.00</b>
Environmental Risk (Post-mitigation)	<b>-6.75</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Strict control should be maintained over all activities during construction. During construction, if any of the Focal Species identified in this report are observed to be roosting and/or breeding in the vicinity (within 500m of the power lines), the EWT is to be contacted for further instruction. It is understood that this phase will be short, temporary and localised in its impacts. It is recommended that a "walk down" take place to address any infrastructure sitting issues that may occur.*

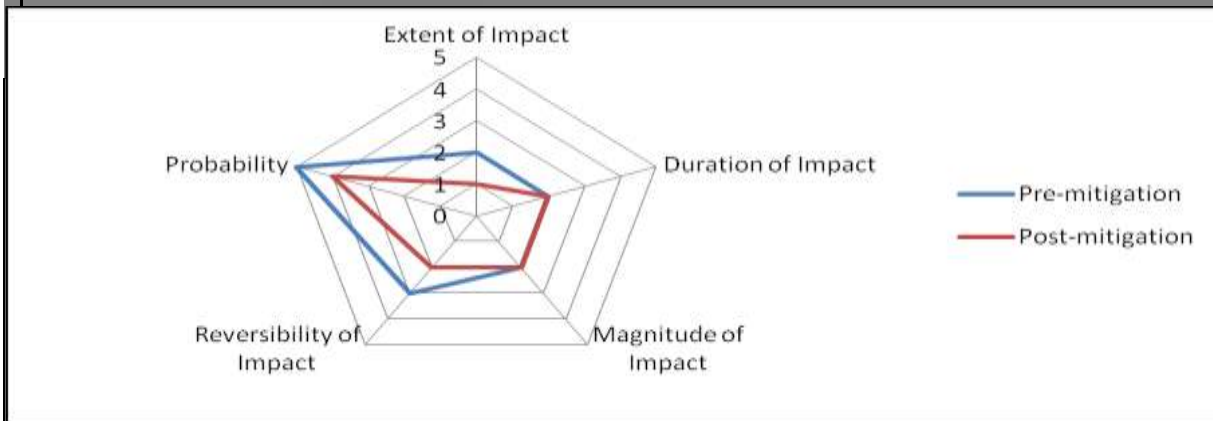
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-6.75</b>

## BASIC ASSESSMENT REPORT

Impact name:	<i>Habitat destruction</i>
Phase:	<i>Construction</i>
Alternative:	<i>S1</i>
Description of impact:	<p><i>During the construction phase and maintenance of power lines some habitat destruction and alteration inevitably takes place. This happens with the construction of access roads, and the clearing of servitudes, as well as clearing vegetation at the substation site. Servitudes have to be cleared of excess vegetation at regular intervals in order to allow access to the line for maintenance, to prevent vegetation from intruding into the legally prescribed clearance gap between the ground and the conductors and to minimize the risk of fire under the line which can result in electrical flashovers. These activities have an impact on birds breeding, foraging and roosting in or in close proximity of the servitude through modification of habitat. As previously identified the study site is previously disturbed as a result of the existing sub-station and the large number of existing lines within the property. Habitat destruction is anticipated to be of <b>Low Significance</b>, in this study area.</i></p>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-11.25</b>
Environmental Risk (Post-mitigation)	<b>-7.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is important to ensure that the construction Environmental Management Programme incorporates guidelines as to how best to minimize this impact specifically on existing natural grasslands. It is understood that this phase will be short, temporary and localised in its impacts. It is recommended that a "walk down" take place to address any infrastructure sitting issues that may occur.*

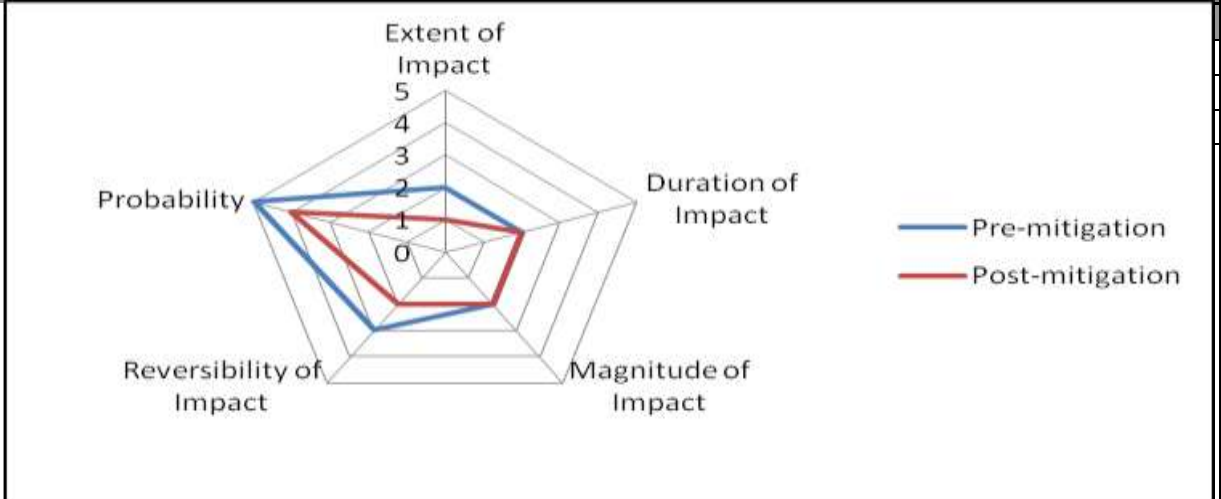
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
Final Significance	<b>-7.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Habitat destruction</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S2</i>
<b>Description of impact:</b>	<i>The proposed site consists of additional land that is pristine. Unlike in the S1 above if S2 site is considered for the proposed project, additional land from the area that is not disturbed will be affected as well. .Habitat destruction for this alternative is anticipated to be of Medium Significance.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-18.75</b>
Environmental Risk (Post-mitigation)	<b>-9.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is important to ensure that the construction Environmental Management Plan incorporates guidelines as to how best to minimize this impact specifically on existing natural grasslands. It is understood that this phase will be short, temporary phase and localised in its impacts. It is recommended that a “walk down” take place to address any infrastructure sitting issues that may occur.*

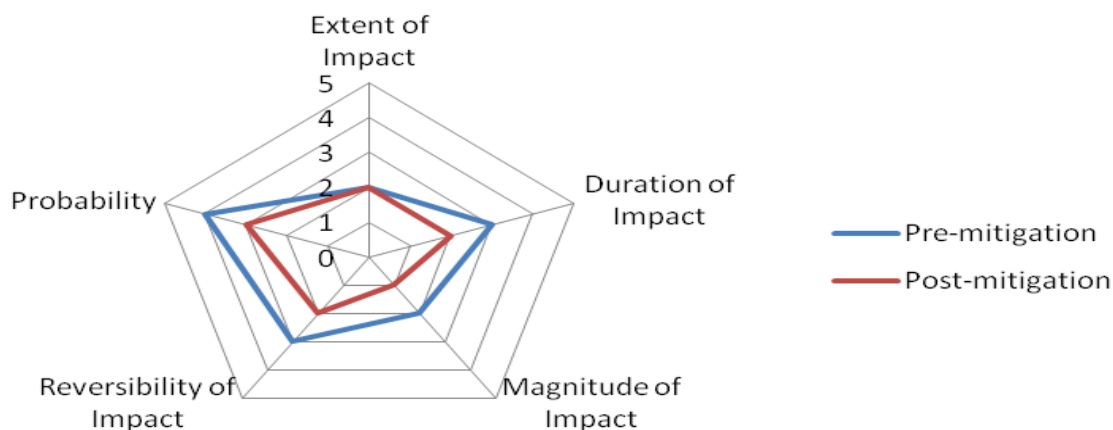
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-9.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Disruption to land-use</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1</i>
<b>Description of impact:</b>	<i>The site is already affected by the existing powerlines and the substation infrastructure. The proposed project will therefore not cause a significant change in the land-use as it will t in line with the existing land-use of the site</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-15.00</b>
Environmental Risk (Post-mitigation)	<b>-10.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Use existing service roads / access roads (existing transmission powerline).  
 Keep impacts within servitude of the powerline.  
 Clear only necessary footprint of tower structures.  
 Rehabilitate disturbed areas as soon as possible*

### Impact Prioritisation

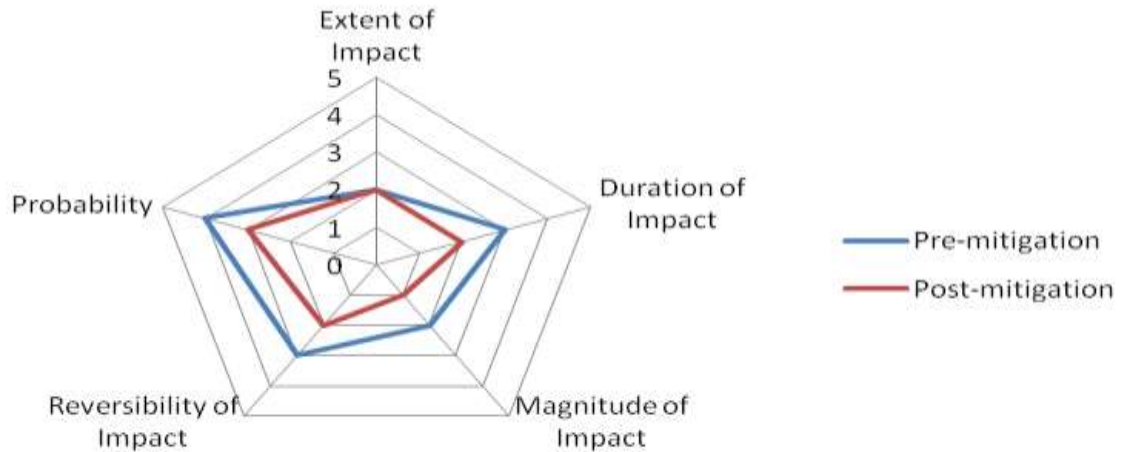
Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	2.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	2.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.33
<b>Final Significance</b>	<b>-10.00</b>



## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Disruption to land use</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S2</i>
<b>Description of impact:</b>	<i>Some of the powerline will encroach into two adjacent properties. If this site is considered for the proposed project, this will alter the land-use of the two adjacent properties neighbouring the Eskom substation property.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-17.50</b>
Environmental Risk (Post-mitigation)	<b>-14.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Align the powerline as close as possible to the existing servitude and where possible utilise the existing Eskom access points for operational phase monitoring and maintenance.  
Relevant private property access protocols must be complied with.*

### Impact Prioritisation

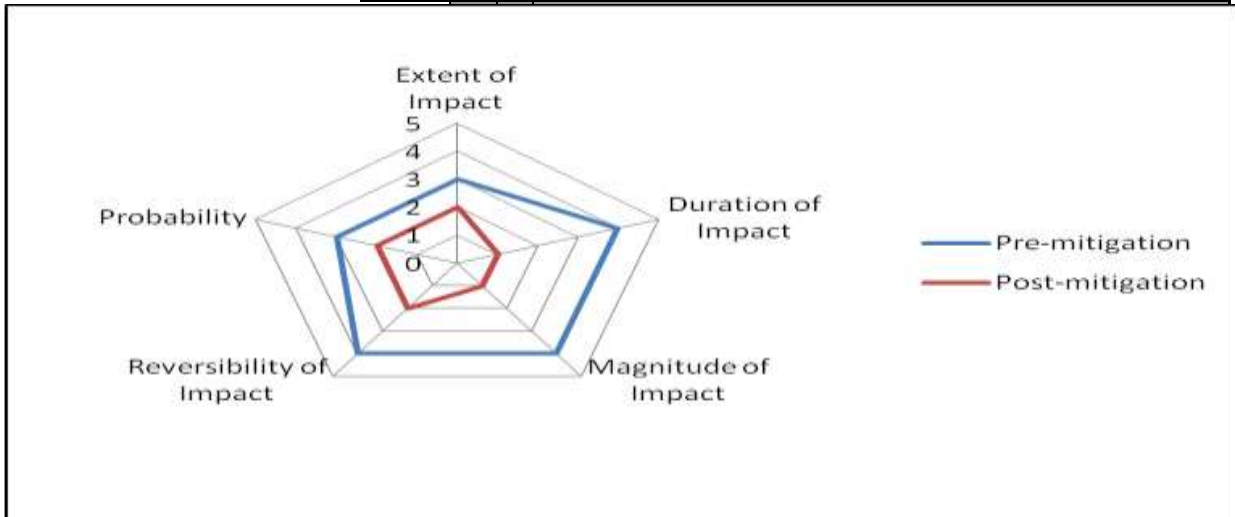
Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	2.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	2.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.33
<b>Final Significance</b>	<b>-14.00</b>



## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Dust Pollution</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>Vegetation clearance for the construction of towers and the road will result in dust creation. The impact is expected to be of limited extent with an LOW negative significance since construction is anticipated to take approximately 24 months.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-9.00</b>
Environmental Risk (Post-mitigation)	<b>-5.25</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Vegetation clearance must be kept to a minimum and exposed soils must be regularly sprayed. The ambient air quality standard of the national Environmental Management: Air Quality Act must be complied with (GNR 1210 of December 2009), specifically pertaining to particulate matter (PM10). Where topsoil's and sub-soils are removed these must be protected from excessive wind erosion.*

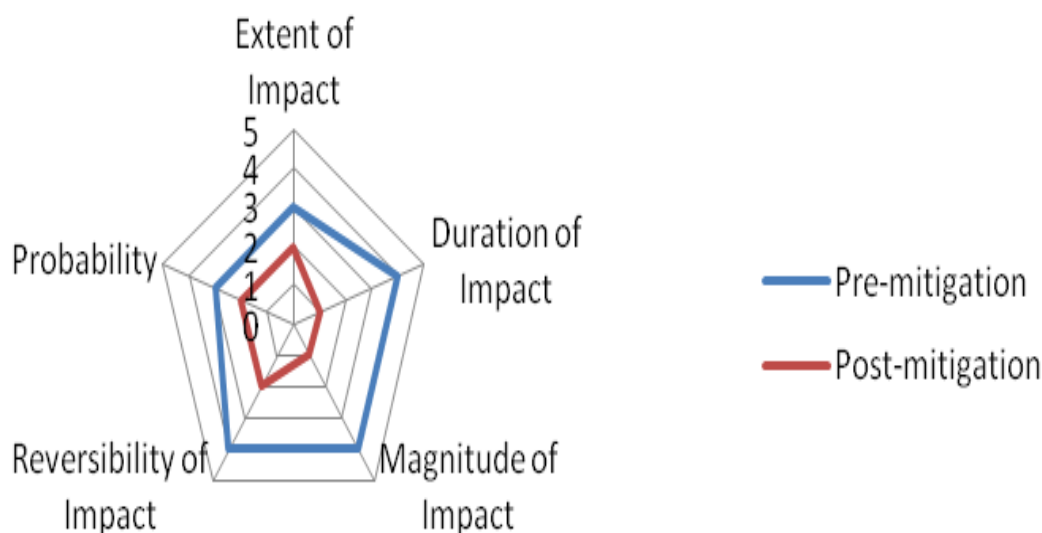
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-5.25</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Noise pollution</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>During construction of the powerlines and the access road, there is likely to be a requirement for small scale earthworks (clearing vegetation and topsoil's to prepare for construction). . These activities are likely to generate noise, which could be a nuisance for local inhabitants and sensitive receptors.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-9.00</b>
Environmental Risk (Post-mitigation)	<b>-5.25</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*All construction vehicles must be serviced regularly to control gaseous exhaust emissions and noise.*

*Working hours to be restricted to 07h00 to 18h00 weekdays and 09h00 to 16h00 on weekends.*

*The regulatory noise requirements must be complied with. With regards to noise, the provisions of Section 25 of the Environment Conservation Act (Act 73 of 1989); the related noise control regulations (Noise Regulations (GNR 154 of 1992)); and the provisions of SANS 10103, must be complied with.*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-5.25</b>

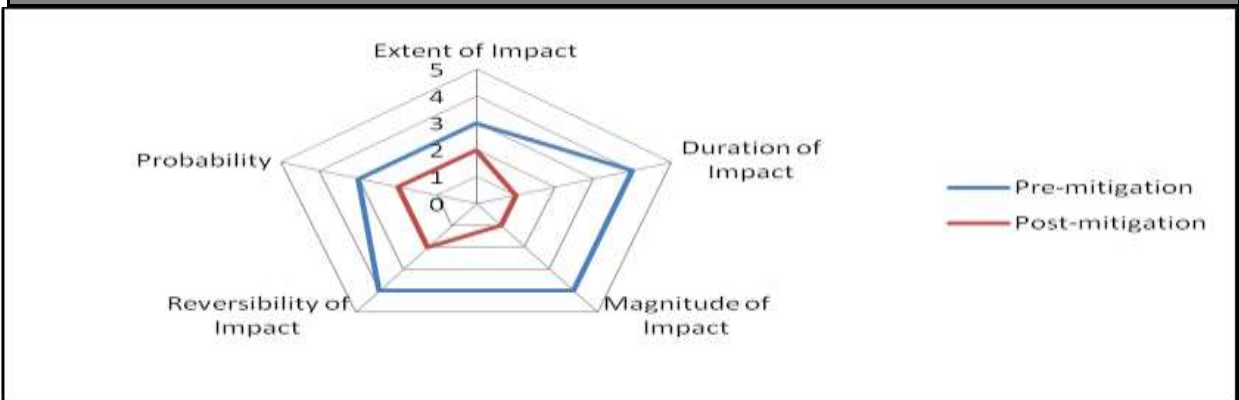
## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Soil and water (surface and ground) pollution</i>	
<b>Phase:</b>	<i>Construction</i>	
<b>Alternative:</b>	<i>S1 and S2</i>	
<b>Description of impact:</b>	<i>There is a risk that oils and other hazardous substances used during construction can directly and indirectly enter the local environmental pathways, e.g. surface water, groundwater, and soils. This will cause a negative impact on the soil and water resources within and around the site.</i>	
<b>Environmental Risk</b>		
Environmental Risk (Pre-mitigation)		<b>18.00</b>
Environmental Risk (Post-mitigation)		<b>16.00</b>
Degree of confidence in impact prediction:	Medium	
<b>Recommended Mitigation Measures</b>		
<p><i>Storage and application of hazardous substances must be done in accordance with best practice standards, and where necessary a bund must be provided. Hazardous substances must be stored in a secure location isolated from direct contact with the soils and covered where necessary. Pollution of the surface water and aquifer is to be prevented at all costs. A spill response procedure must be prepared and applied. Concrete, cement and other hazardous substances required during construction must be stored and where applicable mixed on an impermeable layer acting as a barrier to direct contact with the soils. Spillages and excess water from these areas must not be discharged into the environment but contained, collected and disposed of at a suitably licensed facility.</i></p> <p><i>Ablution facilities (chemical toilets, septic tanks, French drains, etc) must be installed according to the relevant manufacturers' specifications, outside of the 1:100 year floodline/drainage lines/ wetlands, and best environmental practice must be maintained to ensure that no pollution from effluents occurs. All contaminated effluents, wastes, and soils, must be collected and disposed of at a suitably licensed facility. Vehicles must be maintained to proactively prevent unnecessary spills (fuels, lubricants, etc). All working fronts must be provided with a spill containment kit to contain and collect spills. All spills must be reported to the appointed ECO. A suitable stormwater management plan must be prepared for the construction camp and any facilities utilised for the storage of hazardous substances must be approved by the ECO and the relevant engineer.</i></p>		
<b>Impact Prioritisation</b>		
Public Response		1.00
<i>No responses were received on this issue during the public consultation process.</i>		
Cumulative Impacts		1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>		
Degree of potential irreplaceable loss of resources		1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>		
Prioritisation Factor		1.00
<b>Final Significance</b>		<b>-16.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	Waste generation
<b>Phase:</b>	Construction
<b>Alternative:</b>	S1 and S2
<b>Description of impact:</b>	Waste will be generated as a result of construction activities. These wastes would typically include: Solid wastes (construction debris, inert materials-overburden, cement bags, wrapping materials, timber, cans, wire, nails, food, and other organic wastes, etc); and Liquid wastes (oil, paint, sewage, fuel, etc). The management of waste will be applicable throughout the construction process. Irresponsible and uncontrolled waste management can result in severe air, water and soil pollution.

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-12.00</b>
Environmental Risk (Post-mitigation)	<b>-4.50</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*A Waste Management Plan (WMP) must be prepared and implemented throughout construction. This Plan must include measures for waste sorting for the purpose of recycling where feasible. The WMP must include a water conservation and management plan which should aim to reduce, and re-use water where possible. A dedicated waste collection and storage facility must be prepared and this should be emptied and collected wastes disposed of on a regular basis. Wastes must be disposed of at suitably licenced waste disposal facilities. Contaminated water, and effluents must be prevented from entering the local environment (soil and water), adequately stored in protected and where necessary bunded areas, and disposed of at a suitably licenced disposal facility. No wastes are to be disposed of directly in the local environment. Adequate refuse facilities (with closable lids to protect against scavengers) must be placed at all active construction areas and these must be serviced on a regular basis. Each active construction site must be checked on a daily basis to ensure that the site is free from litter and unnecessary wastes.*

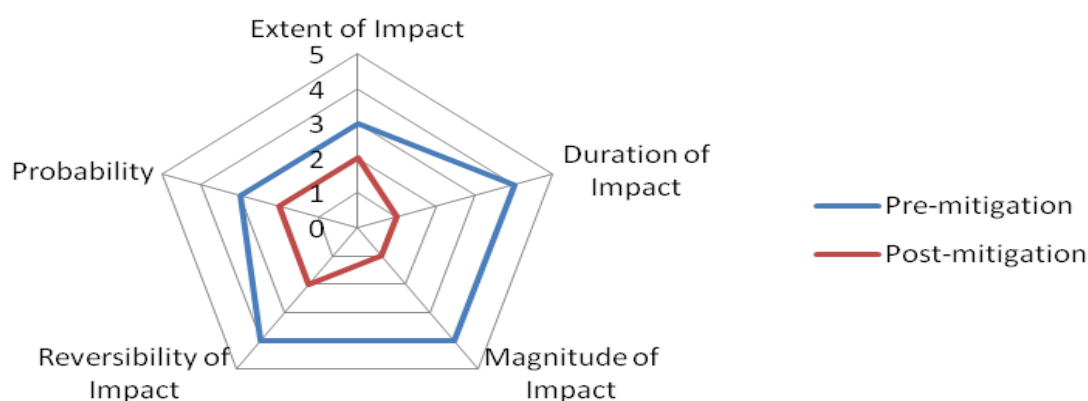
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
<b>Final Significance</b>	<b>-15.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Employment creation</i>
<b>Phase:</b>	<i>Construction</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>The proposed project will employ ~ 20 people during construction. Direct employment opportunities for locals will be limited to temporary un- and semi-skilled jobs. Possible opportunities may exist for local contractors with the required skills and expertise to provide services, such as construction and maintenance of the access roads and the erection and maintenance of fences.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>10.50</b>
Environmental Risk (Post-mitigation)	<b>15.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Prioritise sub-contracting to local SMEs and un-skilled labour. Utilise existing community structures if available, to act as a communication link between the local community and Eskom for informing the local community of job opportunities and informing Eskom of possible contractors in the local community*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>15.00</b>

## BASIC ASSESSMENT REPORT

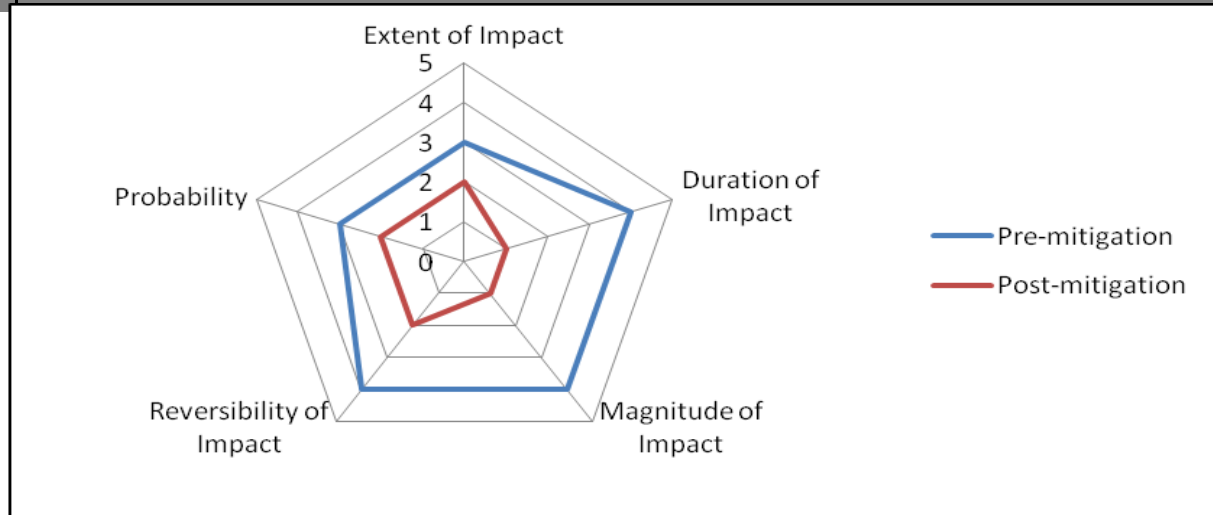
<b>Impact name:</b>	Erosion	
<b>Phase:</b>	Construction	
<b>Alternative:</b>	S1 and S2	
<b>Description of impact:</b>	<p>The construction process will involve clearing of topsoil's and removal of stabilising vegetation in order to prepare the site for both road and powerlines construction. Once the soils are exposed and/or disturbed they are more susceptible to erosion (wind and water). Erosion will result in degradation of the soil resource and will restrict the ability for vegetation growth. In addition to the removal of vegetation and disturbance of topsoil's the alteration of local drainage patters may exacerbate the erosion potential (e.g. concentration of stormwater).</p>	
<b>Environmental Risk</b>		
Environmental Risk (Pre-mitigation)		<b>-10.50</b>
Environmental Risk (Post-mitigation)		<b>-4.50</b>
Degree of confidence in impact prediction:		<b>Medium</b>
<b>Recommended Mitigation Measures</b>		
	<p>Keep disturbance of indigenous vegetation to a minimum. Rehabilitate disturbed areas as quickly as possible following completion of construction activities in an area. Powerline towers must be positioned a minimum of 50 m outside the outer boundary of any watercourse. Avoid unnecessary impacts on natural vegetation surrounding infrastructure. Impacts should be contained, as much as possible, within the servitude of the infrastructure. Any topsoil's removed from construction must be conserved, separate from the sub-soils for use in the rehabilitation process. After the topsoil has been stripped, it will be stored separate from subsoil, in the following manner: To prevent the development of anoxic conditions, soil compaction and loss of soil biota, stripped topsoil will be placed/stored on temporary stockpiled not exceeding 1.5 meter in height, and storage will be for the shortest period possible (not longer than 6 months). To prevent compaction and loss of soil structure, no vehicles or machines will be allowed to drive over or being parked on the topsoil stockpiles. To prevent erosion of topsoil, the stockpile will not be placed within the 1:100 year floodline of a water course, and will not be placed within the path of a stormwater channel, and if necessary, will be provided with a silt fence around the perimeter of the foot of the stockpile. To prevent the establishment of seed bank or accumulation of other propagules of alien invasive plants within/on the topsoil stockpile, the growth of weed species on the stockpile will be controlled. Areas with existing erosion and stability issues must be avoided. Wind screening and stormwater control should be undertaken to prevent loss of topsoil from the site. All erosion control mechanisms need to be regularly maintained to ensure efficacy. In the event that new access tracks are required, adequate stormwater control must be implemented to prevent erosion and excessive ponding. Rehabilitation and if necessary, revegetation (with a suitable local seed mix) of disturbed surfaces should occur as soon as possible after completion of construction activities. Any evidence of erosion, scouring, sedimentation, and/or undercutting must be rectified and rehabilitated immediately.</p>	
<b>Impact Prioritisation</b>		
Public Response		1.00
	No responses were received on this issue during the public consultation process.	
Cumulative Impacts		1.00
	It is unlikely that this impact will result in cumulative spatial and temporal change.	
Degree of potential irreplaceable loss of resources		3.00
	This impact is unlikely to result in irreplaceable loss of resources.	
Prioritisation Factor		1.33
<b>Final Significance</b>		<b>-6.00</b>



## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Establishment and spread of declared weeds and alien invader plants</i>
<b>Phase:</b>	<i>Construction and Operation</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>The existence of infrastructure represents a disturbance in the landscape that could advance conditions in which declared weeds and alien invader plants could potentially be favoured.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-11.25</b>
Environmental Risk (Post-mitigation)	<b>-3.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*Soil stockpiles should not be translocated from areas with alien plants into the site and within the site alien plants on stockpiles must be controlled so as to avoid the development of a soil seed bank of alien plants within the stock-piled soil. Any alien plants must be immediately controlled to avoid establishment of a soil seed bank. An ongoing monitoring programme should be implemented to detect and quantify any aliens that may become established and provide information for the management of aliens. This should form part of an alien management programme*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-3.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Avifaunal Collisions</i>	
<b>Phase:</b>	<i>Operation</i>	
<b>Alternative:</b>	<i>S1 and S2</i>	
<b>Description of impact:</b>	<p><i>Collisions are the biggest single threat posed by over-head power lines to birds in southern Africa (van Rooyen 2004). In general, large lines with earth wires that are not always visible to birds can have the largest impact in terms of collisions. Most heavily impacted upon are korhlaans, bustards, storks, cranes and various species of water birds. These species are mostly heavy-bodied birds with limited manoeuvrability, which makes it difficult for them to take the necessary evasive action to avoid colliding with power lines (van Rooyen 2004, Anderson 2001). Collision of certain large flying bird species such as the vulture species with the proposed powerlines is a possibility, and this impact is predicted to be of <b>Moderate Significance</b>.</i></p>	
<b>Environmental Risk</b>		
Environmental Risk (Pre-mitigation)		<b>-20.00</b>
Environmental Risk (Post-mitigation)		<b>-8.25</b>
Degree of confidence in impact prediction:		Medium
<b>Recommended Mitigation Measures</b>		
<p><i>Mark the relevant sections of line with appropriate marking devices. These sections of line, and the exact spans, should be finalised by a "walk down" as part of the Environmental Management Programme (EMP) phase, once power-line routes are finalised and pylon positions are pegged. Any bird collisions identified should be reported to ESKOM as well as to the EWT Toll Free line for an investigation and possible additional recommendations and mitigation. It is recommended that ESKOM communicate with the Lichtenburg Breeding Centre regarding the vulture restaurant and determine if this restaurant will be re-opened as this may increase the risk of collisions and electrocutions.</i></p>		
<b>Impact Prioritisation</b>		
Public Response		1.00
<i>No responses were received on this issue during the public consultation process.</i>		
Cumulative Impacts		2.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>		
Degree of potential irreplaceable loss of resources		3.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>		
Prioritisation Factor		1.50
<b>Final Significance</b>		<b>-12.38</b>



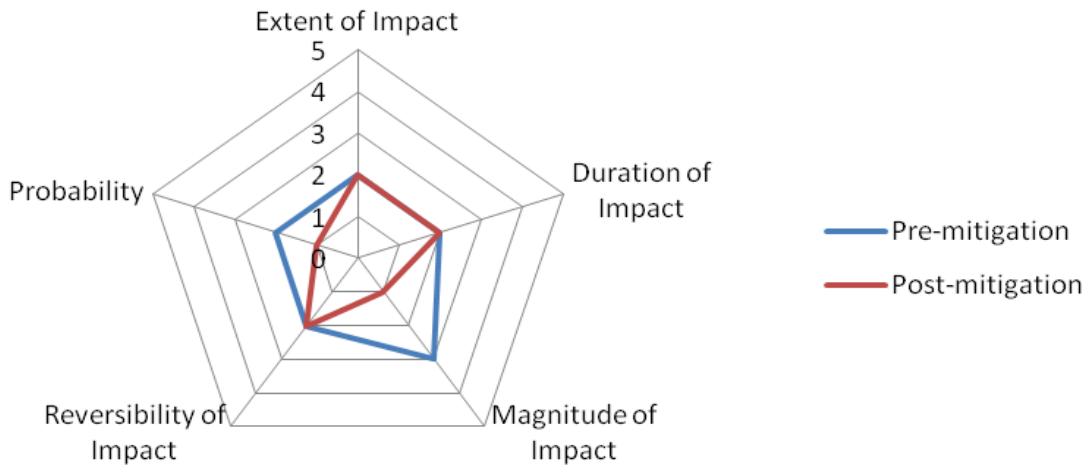
## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Avifaunal Electrocutions</i>	
<b>Phase:</b>	<i>Operation</i>	
<b>Alternative:</b>	<i>S1 and S2</i>	
<b>Description of impact:</b>	<p><i>Electrocution of birds on overhead lines is an important cause of unnatural mortality of raptors and storks. It has attracted plenty of attention in Europe, USA and South Africa (APLIC 1994; van Rooyen &amp; Ledger 1999). Electrocution refers to the scenario where a bird is perched or attempts to perch on the electrical structure and causes an electrical short circuit by physically bridging the air gap between live components and/or live and earthed components (van Rooyen 2004). Electrocution is possible on 132kV power lines, especially where large raptors and vultures feature prevalently. As previously mentioned, records indicate that there have been vulture incidents in the study area in the past and the impact of electrocution is likely to be of Moderate Significance for the proposed power line if the proposed mitigations are implemented.</i></p>	
<b>Environmental Risk</b>		
<p>The radar chart displays five criteria: Extent of Impact, Duration of Impact, Magnitude of Impact, Reversibility of Impact, and Probability. The scale ranges from 0 to 5. Two lines represent 'Pre-mitigation' (blue) and 'Post-mitigation' (red). The Post-mitigation line is consistently lower than the Pre-mitigation line across all criteria, indicating a reduction in environmental risk.</p>		
Environmental Risk (Pre-mitigation)		<b>-16.25</b>
Environmental Risk (Post-mitigation)		<b>-13.75</b>
Degree of confidence in impact prediction:	Medium	
<b>Recommended Mitigation Measures</b>		
<p><i>It is highly recommended that bird friendly structures are utilised such as the steel monopole design and that this incorporates the standard bird perch. If this is the case then most raptors and birds of high electrocution risk will perch well above the conductors and out of harm's way. In addition it is critical that all clearances between live and earth components are greater than 1.8 meters. If this is the case then the impact of bird electrocution will be very minimal. Electrocutions in the proposed substation yard should not affect the sensitive bird species as they are unlikely to use the substation yards for perching or roosting. Should this become an issue the impact can be mitigated reactively using a range of insulation devices that exist and are approved by ESKOM. Any bird electrocutions identified should be reported to ESKOM as well as to the EWT Toll Free line for an investigation and possible additional recommendations and mitigation.</i></p>		
<b>Impact Prioritisation</b>		
Public Response	1.00	
<i>No responses were received on this issue during the public consultation process.</i>		
Cumulative Impacts	1.00	
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>		
Degree of potential irreplaceable loss of resources	1.00	
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>		
Prioritisation Factor	1.00	
<b>Final Significance</b>		<b>-13.75</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Disturbance during routine maintenance</i>
<b>Phase:</b>	<i>Operation</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>Maintenance activities impact on bird through disturbance, particularly during bird breeding activities. Disturbance of birds is anticipated to be of Low Significance.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-4.50</b>
Environmental Risk (Post-mitigation)	<b>-1.75</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*No nests may be removed, without first consulting the EWT's Wildlife and Energy Program (WEP). During maintenance, if any of the "Focal Species" identified in this report are observed to be roosting and/or breeding in the vicinity, the EWT is to be contacted for further instruction.*

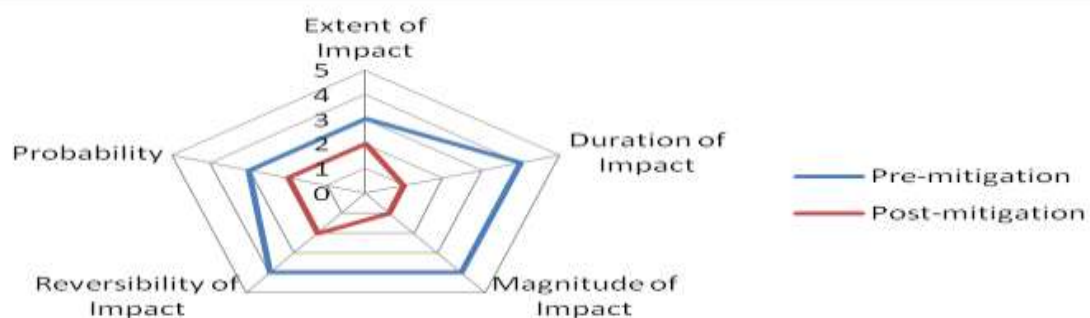
### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-1.75</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Fire Hazard</i>
<b>Phase:</b>	<i>Operation</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>Sparks generated by powerlines can potentially cause fires on properties traversed by the lines. In the unlikely event of tower or line failure due to extraordinarily strong winds or other natural phenomena, it could also potentially lead to fires, as lines may still be live when coming into contact with the ground or vegetation. Another cause of fires from powerlines is "flash-overs".</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-10.50</b>
Environmental Risk (Post-mitigation)	<b>-4.50</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*All regulatory requirements and relevant standards must be complied with for necessary fire prevention, detection and response at the substation and along the powerlines. The substation as well as maintenance vehicles must be provided with adequate fire control equipment. In the event that an uncontrolled fire occurs the relevant authorities (e.g. Fire Protection Officers and Fire Protection Associations) as well as the relevant landowners representatives (Incl. neighbouring landowners) must be informed immediately. A suitable fire break must be maintained around the substation. All other regulatory provisions must be complied with (incl provisions of the National Veld and Forest Fire Act-Act 101 of 1998). The substation and the powerline servitude must be demarcated as a no-smoking area. Necessary powerline clearances must be maintained to prevent flashovers and faulting.*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	3.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.33
<b>Final Significance</b>	<b>-6.00</b>

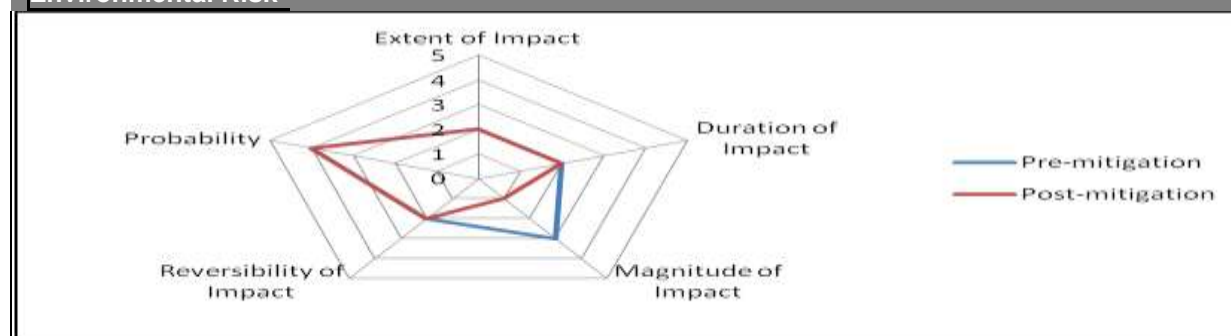
## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Potential impacts of transformer oils</i>	
<b>Phase:</b>	<i>Operation</i>	
<b>Alternative:</b>	<i>S1 and S2</i>	
<b>Description of impact:</b>	<p><i>As part of the proposed upgrade, Eskom is intending to install a new transformer with oil carrying capacity of 81 475 litres. Transformer oils are used for the purposes of insulation and cooling of the windings within the transformer. There are two existing transformers on site and control measures are already in place. There is a risk that the oils from the transformers might directly or indirectly enter the local environmental pathways, e.g. surface water, groundwater, and soils. The potential impact of simultaneous release of transformer oils from more than one transformer will need to be managed.</i></p>	
<b>Environmental Risk</b>		
Environmental Risk (Pre-mitigation)		<b>-12.00</b>
Environmental Risk (Post-mitigation)		<b>-7.00</b>
Degree of confidence in impact prediction:	Medium	
<b>Recommended Mitigation Measures</b>		
<p><i>The existing pollution control features (oil control dam, bunding, liners, etc) at the substations must be assessed and upgraded to accommodate the new transformer to ensure adequate capacity for the proposed upgrade.</i></p>		
<b>Impact Prioritisation</b>		
Public Response		1.00
<p><i>No responses were received on this issue during the public consultation process.</i></p>		
Cumulative Impacts		1.00
<p><i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i></p>		
Degree of potential irreplaceable loss of resources		1.00
<p><i>This impact is unlikely to result in irreplaceable loss of resources.</i></p>		
Prioritisation Factor		1.00
<b>Final Significance</b>		<b>-7.00</b>

## BASIC ASSESSMENT REPORT

<b>Impact name:</b>	<i>Waste management and disposal</i>
<b>Phase:</b>	<i>Decommissioning</i>
<b>Alternative:</b>	<i>S1 and S2</i>
<b>Description of impact:</b>	<i>The primary impact to consider in the decommissioning phase relates to the correct and appropriate management and disposal of waste, should Eskom decide to decommission the Watershed substation and/or proposed infrastructure (e.g. busbars, powerlines, transformers, etc). Certain materials, structures and substances which remain following cessation of operations at the site will be regarded as hazardous. The significance of this impact can be reduced through the implementation of effective management and mitigation measures.</i>

### Environmental Risk



Environmental Risk (Pre-mitigation)	<b>-9.00</b>
Environmental Risk (Post-mitigation)	<b>-7.00</b>
Degree of confidence in impact prediction:	Medium

### Recommended Mitigation Measures

*A comprehensive site decommissioning environmental management plan must be prepared for the site and must include a comprehensive waste management plan. Prior to the decommissioning and detailed decommissioning plan must be prepared. This plan should aim to follow the waste management hierarchy (reuse, recycle, reduce and dispose) in order to prevent unnecessary wastes. All waste which require disposal must be disposed of at a suitably licensed facility. An inventory of infrastructure and wastes together with the ultimate destination (e.g. recycler, waste disposal) should be kept for future records. A rehabilitation plan must be prepared by a suitably qualified specialist prior to commencement. The sites must be rehabilitated to the pre-construction condition or alternatively to align with the surrounding land-uses at the time. The rehabilitated site must be protected*

### Impact Prioritisation

Public Response	1.00
<i>No responses were received on this issue during the public consultation process.</i>	
Cumulative Impacts	1.00
<i>It is unlikely that this impact will result in cumulative spatial and temporal change.</i>	
Degree of potential irreplaceable loss of resources	1.00
<i>This impact is unlikely to result in irreplaceable loss of resources.</i>	
Prioritisation Factor	1.00
<b>Final Significance</b>	<b>-7.00</b>

## BASIC ASSESSMENT REPORT

**Table 1: Impact Summary**

Development Phase	Impact	Direct/ Indirect/ Cumulative	Applicable alternative	Mitigation	Post mitigation significance
Construction	<i>Disturbance, Destruction and damages to heritage resources</i>	Direct; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>☞ <i>Should any heritage objects be exposed during excavation, work on that area should cease immediately and the historian should be informed immediately.</i></li> <li>☞ <i>All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made.</i></li> </ul>	Medium negative (-9.00)
	<i>Impact on paleontological resources</i>	Direct; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>☞ <i>The developer and the ECO of the project must be informed of the fact that Stromatolites have been recorded from the Monte Christo Formation and it is also possible that Caenozoic cave deposits may be present.</i></li> <li>☞ <i>If fossils are observed, a trained palaeontologist must be appointed to collect the fossils according to SAHRA specifications.</i></li> </ul>	Medium negative (-10.00)
	<i>Impact on cultural landscapes</i>	Direct; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>☞ <i>Screening of construction activities as per usual construction requirements is recommended. Monitoring of excavation activity by a palaeontologist may be necessary, depending on the size and depth of the footprint of the pylons to be used.</i></li> </ul>	Low negative (-6.00)
	<i>Loss/fragmentation of natural vegetation</i>	Direct;	S1; S2	<ul style="list-style-type: none"> <li>☞ <i>Use existing service roads / access roads.</i></li> <li>☞ <i>Keep impacts within servitude of the powerline.</i></li> <li>☞ <i>Clear only necessary footprint of tower structures.</i></li> <li>☞ <i>Rehabilitate disturbed areas as soon as possible</i></li> </ul>	Low negative (-7.00)
	<i>Loss/fragmentation of natural vegetation</i>	Direct;	S2	<ul style="list-style-type: none"> <li>☞ <i>Use existing service roads / access roads.</i></li> <li>☞ <i>Keep impacts within servitude of the powerline.</i></li> <li>☞ <i>Clear only necessary footprint of tower structures.</i></li> <li>☞ <i>Rehabilitate disturbed areas as soon as possible</i></li> </ul>	Low negative (-9.00)
	<i>Impacts on threatened plants</i>	Direct; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>☞ <i>Minimize the extent of vegetation removal to the construction footprint only.</i></li> <li>☞ <i>Avoid unnecessary impacts on natural vegetation</i></li> <li>☞ <i>Impacts should be contained, as much as possible, within the servitude of the proposed development.</i></li> <li>☞ <i>The removal, damage or disturbance of any flora within or outside the construction area is not permitted unless specifically</i></li> </ul>	Low negative (-1.17)

## BASIC ASSESSMENT REPORT

				<p><i>authorised by the ECO.</i></p> <ul style="list-style-type: none"> <li>✓ <i>Vegetation clearing shall take place in a phased (if possible) manner in order to retain vegetation cover for as long as possible.</i></li> <li>✓ <i>Search and rescue activities for bulbous plants and other sensitive areas identified during the Impact Assessment process. These plants are to be stored in a designated nursery until they can be re-introduced to the area. All plants must be well documented throughout the search and rescue to enable correct relocation.</i></li> <li>✓ <i>License application is required for the removal and destruction of protected species through the provincial Department of Environmental Affairs and the Department of Forestry.</i></li> <li>✓ <i>Rehabilitation and re-vegetation of the disturbed areas should be done immediately after completion of a particular section of construction with indigenous species and should be done to the satisfaction of the ECO and the DEA.</i></li> </ul>	
	<i>Loss/fragmentation of habitat for threatened terrestrial fauna</i>	Direct; Indirect; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>✓ <i>Clearing should be undertaken when it is necessary and only within the development footprint.</i></li> </ul>	Low negative (-1.17)
	<i>Disturbance to birds</i>	Direct; Indirect;	S1; S2	<ul style="list-style-type: none"> <li>✓ <i>Strict control should be maintained over all activities during construction.</i></li> <li>✓ <i>During construction, if any of the Focal Species identified in this report are observed to be roosting and/or breeding in the vicinity (within 500m of the power lines), the EWT is to be contacted for further instruction. It is understood that this phase will be short, temporary and localised in its impacts. It is recommended that a “walk down” take place to address any infrastructure sitting issues that may occur.</i></li> </ul>	Low negative (-6.75)
	<i>Habitat destruction</i>	Direct; Indirect Cumulative	S1	<ul style="list-style-type: none"> <li>✓ <i>Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is important to ensure that the construction Environmental Management Programme incorporates guidelines as to how best to minimize this impact specifically on existing natural grasslands.</i></li> <li>✓ <i>It is understood that this phase will be short, temporary and localised in its impacts. It is recommended that a “walk down”</i></li> </ul>	Low negative (-7.00)



## BASIC ASSESSMENT REPORT

				<p><i>take place to address any infrastructure sitting issues that may occur.</i></p>	
	<i>Habitat Destruction</i>	Direct; Indirect; Cumulative	S2	<ul style="list-style-type: none"> <li>➤ <i>Strict control should be maintained over all activities during construction, in particular heavy machinery and vehicle movements, and staff. It is important to ensure that the construction Environmental Management Programme incorporates guidelines as to how best to minimize this impact specifically on existing natural grasslands.</i></li> <li>➤ <i>It is understood that this phase will be short, temporary and localised in its impacts. It is recommended that a “walk down” take place to address any infrastructure sitting issues that may occur.</i></li> </ul>	Medium Negative (-9.00)
	<i>Establishment and spread of declared weeds and alien invader plants</i>	Direct; Indirect Cumulative	S1;S2	<ul style="list-style-type: none"> <li>➤ <i>Areas disturbed due to construction activities should be rehabilitated as quickly as possible.</i></li> <li>➤ <i>Soil stockpiles should not be translocated from areas with alien plants into the site and within the site alien plants on stockpiles must be controlled so as to avoid the development of a soil seed bank of alien plants within the stock-piled soil.</i></li> <li>➤ <i>Any alien plants must be immediately controlled to avoid establishment of a soil seed bank.</i></li> <li>➤ <i>An ongoing monitoring programme should be implemented to detect and quantify any aliens that may become established and provide information for the management of aliens. This should form part of an alien management programme</i></li> </ul>	Low negative (-1.00)
	<i>Dust Pollution</i>	Direct; Indirect Cumulative	S1; S2	<ul style="list-style-type: none"> <li>➤ <i>Vegetation clearance must be kept to a minimum and exposed soils must be regularly sprayed.</i></li> <li>➤ <i>The ambient air quality standard of the national Environmental Management: Air Quality Act must be complied with (GNR 1210 of December 2009), specifically pertaining to particulate matter (PM10). Where topsoil's and sub-soils are removed these must be protected from excessive wind erosion.</i></li> </ul>	Low negative (-5.25)
	<i>Noise pollution</i>	Direct; Indirect; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>➤ <i>Vegetation clearance must be kept to a minimum and exposed soils must be regularly sprayed. All construction vehicles must be serviced regularly to control gaseous exhaust emissions and noise.</i></li> <li>➤ <i>Working hours to be restricted to 07h00 to 18h00 weekdays and 09h00 to 16h00 on weekends.</i></li> <li>➤ <i>The regulatory noise requirements must be complied with. With</i></li> </ul>	Low negative (-5.25)



## BASIC ASSESSMENT REPORT

				<p>regards to noise, the provisions of Section 25 of the Environment Conservation Act (Act 73 of 1989); the related noise control regulations (Noise Regulations (GNR 154 of 1992)); and the provisions of SANS 10103, must be complied with.</p>	
	Soil and water (surface and ground) pollution	Direct; Indirect; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>➤ Storage and application of hazardous substances must be done in accordance with best practice standards, and where necessary a bund must be provided.</li> <li>➤ Hazardous substances must be stored in a secure location isolated from direct contact with the soils and covered where necessary. Pollution of the surface water and aquifer is to be prevented at all costs.</li> <li>➤ A spill response procedure must be prepared and applied. Concrete, cement and other hazardous substances required during construction must be stored and where applicable mixed on an impermeable layer acting as a barrier to direct contact with the soils.</li> <li>➤ Spillages and excess water from these areas must not be discharged into the environment but contained, collected and disposed of at a suitably licensed facility.</li> <li>➤ Ablution facilities (chemical toilets, septic tanks, French drains, etc) must be installed according to the relevant manufacturers' specifications, outside of the 1:100 year floodline/drainage lines/ wetlands, and best environmental practice must be maintained to ensure that no pollution from effluents occurs.</li> <li>➤ All contaminated effluents, wastes, and soils, must be collected and disposed of at a suitably licensed facility.</li> <li>➤ Vehicles must be maintained to proactively prevent unnecessary spills (fuels, lubricants, etc).</li> <li>➤ All working fronts must be provided with a spill containment kit to contain and collect spills. All spills must be reported to the appointed ECO.</li> <li>➤ A suitable stormwater management plan must be prepared for the construction camp and any facilities utilised for the storage of hazardous substances must be approved by the ECO and the relevant engineer.</li> </ul>	Medium Positive (-16.00)
	Waste Generation	Direct;	S1; S2	<ul style="list-style-type: none"> <li>➤ A Waste Management Plan (WMP) must be prepared and implemented throughout construction. This Plan must include</li> </ul>	Medium negative

## BASIC ASSESSMENT REPORT

				<p><i>measures for waste sorting for the purpose of recycling where feasible. The WMP must include a water conservation and management plan which should aim to reduce, and re-use water where possible. A dedicated waste collection and storage facility must be prepared and this should be emptied and collected wastes disposed of on a regular basis. Wastes must be disposed of at suitably licenced waste disposal facilities.</i></p> <ul style="list-style-type: none"> <li>✎ <i>Contaminated water, and effluents must be prevented from entering the local environment (soil and water), adequately stored in protected and where necessary bunded areas, and disposed of at a suitably licenced disposal facility.</i></li> <li>✎ <i>No wastes are to be disposed of directly in the local environment.</i></li> <li>✎ <i>Adequate refuse facilities (with closable lids to protect against scavengers) must be placed at all active construction areas and these must be serviced on a regulator basis.</i></li> <li>✎ <i>Each active construction site must be checked on a daily basis to ensure that the site is free from litter and unnecessary wastes.</i></li> </ul>	(-15.00)
	<i>Employment creation</i>	Direct Indirect	S1; S2	<ul style="list-style-type: none"> <li>✎ <i>Prioritise sub-contracting to local SMEs and un-skilled labour. Utilise existing community structures if available, to act as a communication link between the local community and Eskom for informing the local community of job opportunities and informing Eskom of possible contractors in the local community</i></li> </ul>	Medium Positive (15.00)
	<i>Erosion</i>	Direct; Indirect	S1; S2	<ul style="list-style-type: none"> <li>✎ <i>Keep disturbance of indigenous vegetation to a minimum. Rehabilitate disturbed areas as quickly as possible following completion of construction activities in an area.</i></li> <li>✎ <i>Powerline towers must be positioned a minimum of 50 m outside the outer boundary of any watercourse. Avoid unnecessary impacts on natural vegetation surrounding infrastructure.</i></li> <li>✎ <i>Impacts should be contained, as much as possible, within the servitude of the infrastructure. Any topsoil's removed from construction must be conserved, separate from the sub-soils for use in the rehabilitation process.</i></li> <li>✎ <i>After the topsoil has been stripped, it will be stored separate from subsoil, in the following manner: To prevent the</i></li> </ul>	Low negative (-6.00)

## BASIC ASSESSMENT REPORT

				<p>development of anoxic conditions, soil compaction and loss of soil biota, stripped topsoil will be placed/stored on temporary stockpiled not exceeding 1.5 meter in height, and storage will be for the shortest period possible (not longer than 6 months). To prevent compaction and loss of soil structure, no vehicles or machines will be allowed to drive over or being parked on the topsoil stockpiles. To prevent erosion of topsoil, the stockpile will not be placed within the 1:100 year floodline of a water course, and will not be placed within the path of a stormwater channel, and if necessary, will be provided with a silt fence around the perimeter of the foot of the stockpile. To prevent the establishment of seed bank or accumulation of other propagules of alien invasive plants within/on the topsoil stockpile, the growth of weed species on the stockpile will be controlled.</p> <ul style="list-style-type: none"> <li>➤ Areas with existing erosion and stability issues must be avoided. Wind screening and stormwater control should be undertaken to prevent loss of topsoil from the site.</li> <li>➤ All erosion control mechanisms need to be regularly maintained to ensure efficacy. In the event that new access tracks are required, adequate stormwater control must be implemented to prevent erosion and excessive ponding.</li> <li>➤ Rehabilitation and if necessary, revegetation (with a suitable local seed mix) of disturbed surfaces should occur as soon as possible after completion of construction activities.</li> <li>➤ Any evidence of erosion, scouring, sedimentation, and/or undercutting must be rectified and rehabilitated immediately.</li> </ul>	
	<i>Disruption to land-use</i>	Direct; Indirect; cumulative	S1	<ul style="list-style-type: none"> <li>➤ Use existing service roads / access roads (existing transmission powerline).</li> <li>➤ Keep impacts within servitude of the powerline. Clear only necessary footprint of tower structures. Rehabilitate disturbed areas as soon as possible</li> </ul>	Medium negative (-10.00)
	<i>Disruption to land-use</i>	Direct; Indirect; cumulative	S2	<ul style="list-style-type: none"> <li>➤ Use existing service roads / access roads (existing transmission powerline).</li> <li>➤ Keep impacts within servitude of the powerline. Clear only necessary footprint of tower structures. Rehabilitate disturbed areas as soon as possible</li> </ul>	Medium Negative (-14.00)
Operation	<i>Collisions</i>	Direct;	S1; S2	<ul style="list-style-type: none"> <li>➤ Mark the relevant sections of line with appropriate marking</li> </ul>	Medium

## BASIC ASSESSMENT REPORT

		Cumulative		<p>devices. These sections of line, and the exact spans, should be finalised by a “walk down” as part of the Environmental Management Programme (EMP) phase, once power-line routes are finalised and pylon positions are pegged.</p> <ul style="list-style-type: none"> <li>➤ Any bird collisions identified should be reported to ESKOM as well as to the EWT Toll Free line for an investigation and possible additional recommendations and mitigation. It is recommended that ESKOM communicate with the Lichtenburg Breeding Centre regarding the vulture restaurant and determine if this restaurant will be re-opened as this may increase the risk of collisions and electrocutions.</li> </ul>	negative (-12.38)
	<i>Electrocution</i>	Direct; Cumulative	S1; S2	<ul style="list-style-type: none"> <li>➤ It is highly recommended that bird friendly structures are utilised such as the steel monopole design and that this incorporates the standard bird perch. If this is the case then most raptors and birds of high electrocution risk will perch well above the conductors and out of harm’s way. In addition it is critical that all clearances between live and earth components are greater than 1.8 meters. If this is the case then the impact of bird electrocution will be very minimal.</li> <li>➤ Electrocutions in the proposed substation yard should not affect the sensitive bird species as they are unlikely to use the substation yards for perching or roosting. Should this become an issue the impact can be mitigated reactively using a range of insulation devices that exist and are approved by ESKOM. Any bird electrocutions identified should be reported to ESKOM as well as to the EWT Toll Free line for an investigation and possible additional recommendations and mitigation.</li> </ul>	Medium positive (-13.75)
	<i>Establishment and spread of declared weeds and alien invader plants</i>	Direct; Indirect; Cumulative	S1;S2	<ul style="list-style-type: none"> <li>➤ Areas disturbed due to construction activities should be rehabilitated as quickly as possible.</li> <li>➤ Soil stockpiles should not be translocated from areas with alien plants into the site and within the site alien plants on stockpiles must be controlled so as to avoid the development of a soil seed bank of alien plants within the stock-piled soil.</li> <li>➤ Any alien plants must be immediately controlled to avoid establishment of a soil seed bank.</li> <li>➤ An ongoing monitoring programme should be implemented to detect and quantify any aliens that may become established and provide information for the management of aliens. This</li> </ul>	Low negative (-1.00)

## BASIC ASSESSMENT REPORT

				<i>should form part of an alien management programme</i>	
	<i>Disturbance during routine maintenance</i>	Direct Indirect	S1; S2	<p>☞ <i>No nests may be removed, without first consulting the EWT's Wildlife and Energy Program (WEP). During maintenance, if any of the "Focal Species" identified in this report are observed to be roosting and/or breeding in the vicinity, the EWT is to be contacted for further instruction.</i></p>	Low negative (-1.75)
	<i>Fire hazard</i>	Direct; Indirect; cumulative	S1; S2	<p>☞ <i>All regulatory requirements and relevant standards must be complied with for necessary fire prevention, detection and response at the substation and along the powerlines. The substation as well as maintenance vehicles must be provided with adequate fire control equipment. In the event that an uncontrolled fire occurs the relevant authorities (e.g. Fire Protection Officers and Fire Protection Associations) as well as the relevant landowners representatives (Incl. neighbouring landowners) must be informed immediately. A suitable fire break must be maintained around the substation. All other regulatory provisions must be complied with (including provisions of the National Veld and Forest Fire Act-Act 101 of 1998). The substation and the powerline servitude must be demarcated as a no-smoking area. Necessary powerline clearances must be maintained to prevent flashovers and faulting.</i></p>	Low negative (-6.00)
	<i>Potential Impact on transformer oils</i>	Direct; Indirect; cumulative	S1; S2	<p>☞ <i>The existing pollution control features (oil control dam, bunding, liners, etc) at the substations must be assessed and upgraded to accommodate the new transformer to ensure adequate capacity for the proposed upgrade.</i></p>	Low negative (-7.00)
Decommissioning	Site rehabilitation; Waste management and disposal	Direct	S1; S2	<p>☞ <i>Prior to the decommissioning and detailed decommissioning plan must be prepared. This plan should aim to follow the waste management hierarchy (reuse, recycle, reduce and dispose) in order to prevent unnecessary wastes. All waste which require disposal must be disposed of at a suitably licenced facility. An inventory of infrastructure and wastes together with the ultimate destination (e.g. recycler, waste disposal) should be kept for future records. A rehabilitation plan must be prepared by a suitably qualified specialist prior to commencement. The sites must be rehabilitated to the pre-construction condition or alternatively to align with the surrounding land-uses at the time. The rehabilitated site must be protected from future erosion.</i></p>	Low negative (-7.00)

## BASIC ASSESSMENT REPORT

A complete impact assessment in terms of Regulation 22(2)(i) of GN R.543 must be included as Appendix F.

### 2. ENVIRONMENTAL IMPACT ASSESSMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account, with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

Please refer to Appendix F for the summary of identified impacts and methodology used.

#### Impact Assessment Statement:

Please Note that from an environmental point of view the preferred alternative S1 is considered the best option for the proposed development since it is within the already transformed Eskom Watershed substation site and all identified impacts can be reduced to medium and low significance provided that all recommended mitigation measures are implemented correctly. The alternative site (S2) is not considered preferable for this application due to the fact that the proposed power lines encroach two adjacent properties (R/E of portion 1 of the farm Lichtenburg Town and Townlands 27 IP and Remaining extent of portion 0 of the farm Priem 30 IP) beyond Eskom property boundaries. If this alternative is considered, additional land that is pristine will be further affected by the proposed development.

### 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 ✓

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

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

All recommended mitigation measures that should be considered for inclusion in the EA during the issuing of EA by the competent Authority (CA) in respect of this application have been listed in the attached EMPr (Appendix G)

Is an EMPr attached?

YES ✓

The EMPr must be attached as Appendix G.

#### Comparative Assessment of Alternatives:

With reference to Section 2, two site alternatives were identified and assessed in this report, namely S1 and S2. The identified impacts were assessed and compared for each alternative. Below provides a

## BASIC ASSESSMENT REPORT

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comparison of the post-mitigation significance scores applicable to each alternative. Please note that only impacts which are likely to result in different impact significance scores for the alternatives have been included. All other impacts were assessed to have a similar significance regardless of the alternative selected.

### COMPARATIVE ASSESSMENT OF ALTERNATIVES

Impact	Final Impact Significance	
	Alternative S1	Alternative S2
Disruption of land use	Medium – (-13.33)	Medium – (-18.67)
Habitat destruction	Low – (-7)	Low - (-9)
Loss/fragmentation of natural vegetation	Low - (-9)	Low - (-12)
Final comparative scores (sum of individual scores)	<b>-29.33</b>	<b>-39.67</b>

Based on the findings of Table 2 and this assessment **the preferred alternative is Site alternative S1.**

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





