

VEGETATION OPINION

Proposed Powerline Alternatives Farm: Boschmanskop 154 IS near Pullens Hope, Mpumalanga

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This report is based on survey and assessment techniques which are limited by time and budgetary constraints relevant to the type and level of investigation undertaken. The findings, results, observations, conclusions and recommendations given in this report are based on the author's best scientific and professional knowledge as well as available information at the time of study. Therefore, the author reserves the right to modify aspects of the report including the recommendations if and when new information may become available from ongoing research or further work in this field, or pertaining to this investigation.

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The Environmental Impact Assessment Regulations (Government Notice No. R982 of 4 December 2014), requires that certain information is included in specialist reports. The terms of reference, purpose of the report, methodologies, assumptions and limitations, impact assessment and mitigation (where relevant to the scope of work) and summaries of consultations (where applicable) are included within the main report. Other relevant information is set out below:

Expertise of author:

- Working in the field of ecology, and in specific vegetation related assessments, since 2007;
- Is registered as a Professional Natural Scientist with the South African Council for Natural Scientific Professions in the field of ecology (Reg. No. 400019/11); and
- Has been working with plants indigenous to South Africa since 1997.

Declaration of independence:

Dimela Eco Consulting in an independent consultant and hereby declare that it does not have any financial or other vested interest in the undertaking of the proposed activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998). In addition, remuneration for services provided by Dimela Eco Consulting is not subjected to or based on approval of the proposed project by the relevant authorities responsible for authorising this proposed project.

Disclosure:

Dimela Eco Consulting undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and will provide the competent authority with access to all information at its disposal regarding the application, whether such information is favourable to the applicant or not.

Based on information provided to Dimela Eco Consulting by the client, and in addition to information obtained during the course of this study, Dimela Eco Consulting present the results and conclusion within the associated document to the best of the authors professional judgement and in accordance with best practise.



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SACNASP Reg. No. 400019/11

____ 2017.12.07 ____

Date

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1. INTRODUCTION

Dimela Eco Consulting was tasked by Envirolution Consulting to investigate the vegetation that could be affected by three (3) alternative powerlines proposed to link a proposed substation to existing powerlines about 2.2km north-west thereof.

1.1 Terms of reference

The terms of reference required an opinion of the vegetation that could be impacted on based on:

- A short site visit;
- Background information pertaining to the site (provincial conservation plans, vegetation types an listed ecosystems); and
- An opinion whether the vegetation present poses a constraint to the proposed powerline alternatives and which alternative will have the least impact on vegetation in a good ecological condition.

1.2 Assumptions and Limitations

Vegetation studies should be conducted during the growing season of all plant species that may potentially occur. This may require more than one season's survey with two visits undertaken preferably during November and February.

A comprehensive vegetation assessment was not part of the terms of reference. Instead a number of small Eskom projects (of which this project was one) were visited on one day. The time spent on site aimed at identifying the dominant vegetation group and species present and to determine of any potential sensitive vegetation groupings could be impacted on by the proposed development. This site visit took place on the 30th of November 2017, after good summer rainfall.

Even though every care is taken to ensure the accuracy of this report, environmental assessment studies are limited in scope, time and budget. Discussions and proposed mitigations are to some extent made on reasonable and informed assumptions built on *bone fide* information sources, as well as deductive reasoning. Deriving a 100% factual report based on field collecting and observations can only be done over several years and seasons to account for fluctuating environmental conditions and migrations. Since environmental impact studies deal with dynamic natural systems additional information may come to light at a later stage. We can thus not accept responsibility for conclusions and mitigation measures made in good

1.3 Methodology

Literature of the area that the project is situated in was reviewed and the short site visit was undertaken on the 30th of November 2017. Google Earth aerial imagery was used to gain an understanding of past and current land uses and disturbances on and around the site that will determine the vegetation response in terms of structure and species composition. A 100m buffer of surrounding land was also considered.

The description of the regional vegetation relied on literature from Mucina & Rutherford (2006). Plant names follow Van Wyk & Van Wyk (1997), Van Wyk & Malan (1997), Pooley (1998), Henderson (2001), Van Oudtshoorn (2002) and Bromilow (2010). Plant identification and vegetation description relied on species recorded in walked transects. Vegetation sensitivity was classified as set out in the assessment criteria in Appendix A.

2. BACKGROUND INFORMATION

2.1 Locality and land use

The three (3) proposed alternatives (henceforth referred to as the project site) are situated on the farm Boschmanskop 154 IS, south of the town of Pullens Hope in the Mpumalanga Province. The substation is situated adjacent to a railway line that will be crossed by each of the three alternatives in a north-westerly direction (Figure 1). The site falls within the quarter degree square 2629BA.

2.2 Summary of biophysical information

Hydrology

Alternative 2 will traverse a river and associated wetland area and a pan is situated between Alternative 1 & 3 (Figure 2).

Historical Vegetation and Listed Ecosystems

The project area falls within the Eastern Highveld Grassland which grows on slightly or moderately undulating plains, including some low hills and pan depressions (Mucina & Rutherford, 2006). The vegetation is short dense grassland dominated by the typical highveld grass composition (including *Aristida*, *Digitaria*, *Eragrostis*, *Themeda*, *Tristachya* species) with small, scattered rocky outcrops with wiry, sour grasses and some woody species (e.g. *Senegalia caffra*, *Celtis africana*, *Diospyros lycioides* subsp *lycioides*, *Parinari capensis*, *Protea caffra*, *P. welwitschii* and *Rhus magalimontanum*) (Mucina & Rutherford, 2006). This vegetation unit has been transformed by mining and cultivation and is considered to be endangered (Mucina & Rutherford, 2006).

The Eastern Highveld Grassland is listed as a Vulnerable ecosystem and natural to near-natural vegetation should thus be regarded as sensitive to development (Government Gazette 34809, Government Notice 1002, 9 December 2011).

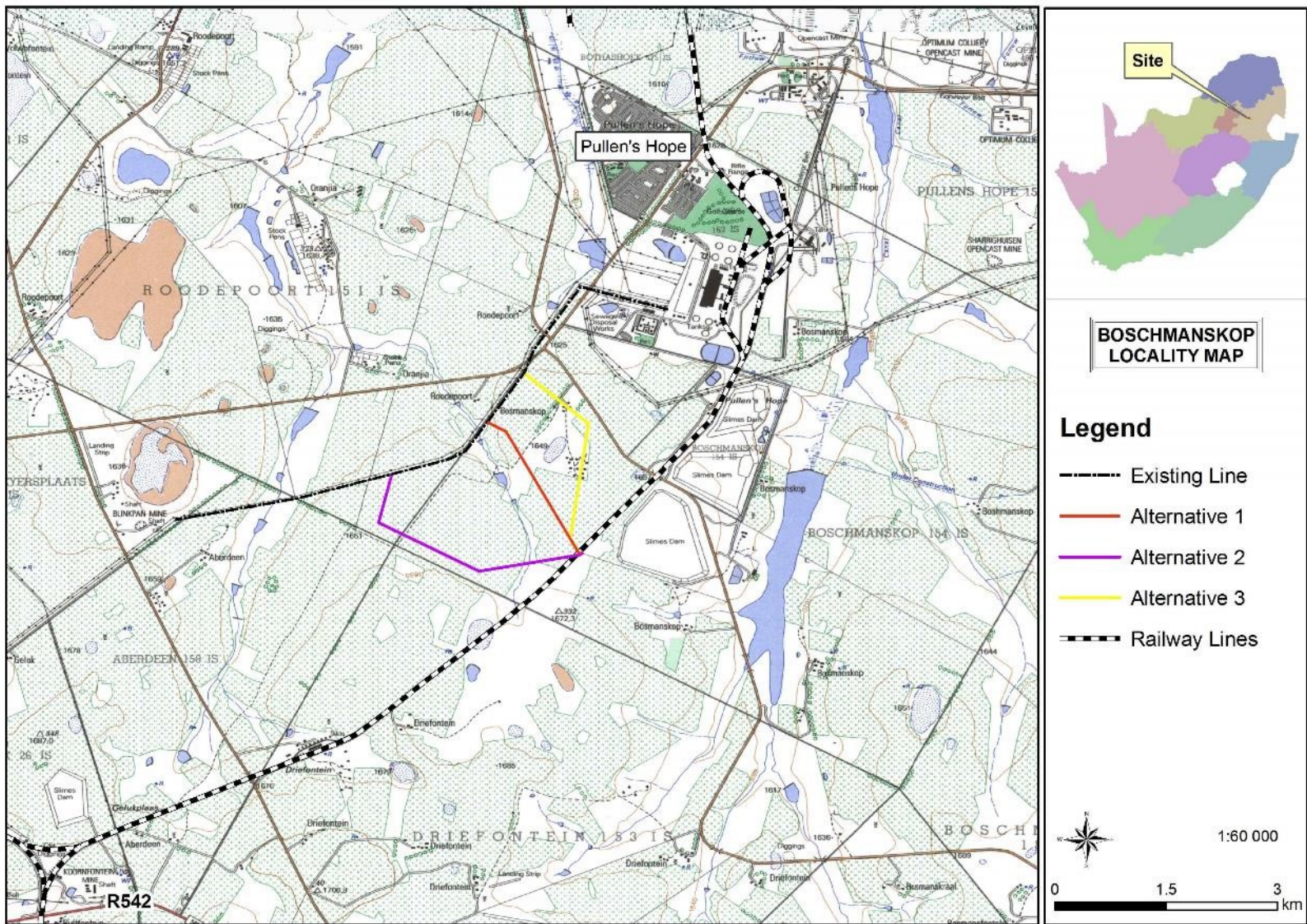


Figure 1: Locality map

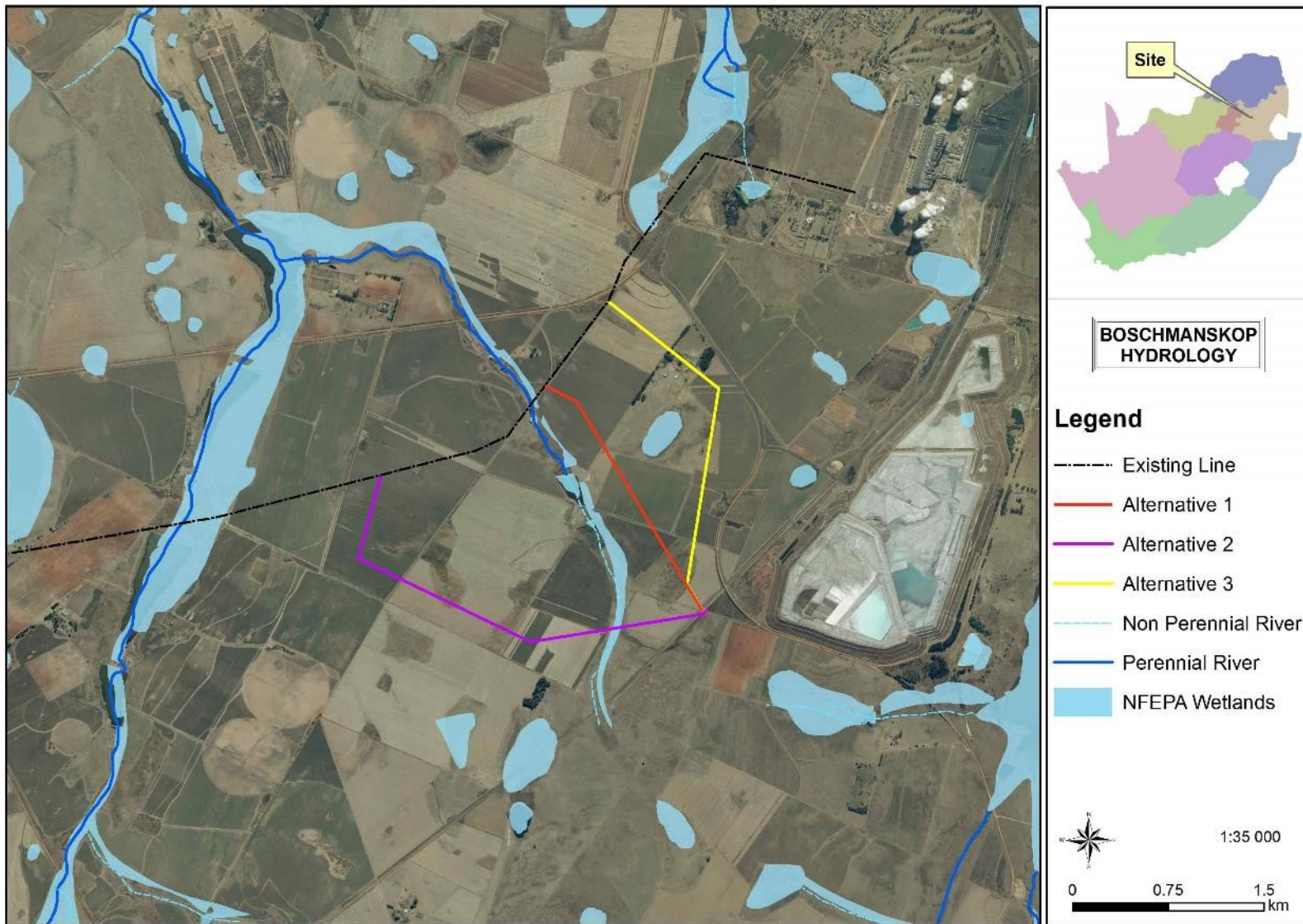


Figure 2: Hydrology of the area

2.3 Mpumalanga Biodiversity Sector Plan

According to the Mpumalanga Biodiversity Sector Plan (MBSP), the project site is situated mainly in *Modified Areas* (moderately to heavily modified) typifying areas so modified by human activity that they are by-and-large no longer natural, and do not contribute to biodiversity targets. Some of these areas may still provide limited biodiversity and ecological infrastructural functions, but their biodiversity value has been significantly and in many cases irreversibly compromised. These areas are suitable for the proposed development (MTPA, 2014).

All three alternatives will traverse small sections of *Other Natural Areas* that have not been identified as a priority in the current systematic biodiversity plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructural functions. The proposed powerline alternatives may compromise the biodiversity objective and are only permissible under certain conditions (MTPA, 2014).

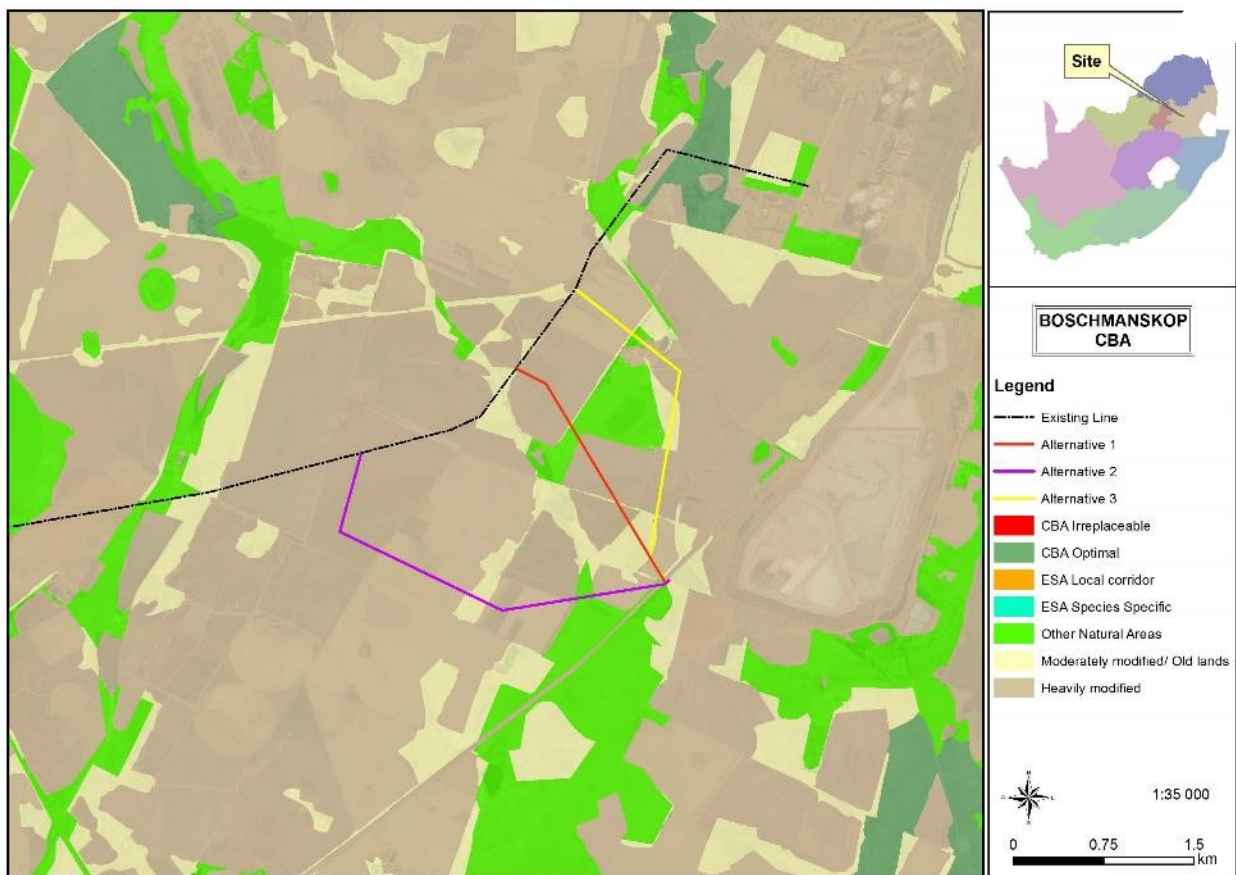


Figure 3: The project area in relation to the Mpumalanga Biodiversity Sector Plan

3. OPINION: VEGETATION

3.1 Land use

Past disturbances were considered to determine the vegetation response to such disturbances. Google Earth imagery and the topographic map in Figure 1 shows that the majority of the extent of the alternatives are cultivated with small pockets of natural grassland or fallow lands (Figure 4).

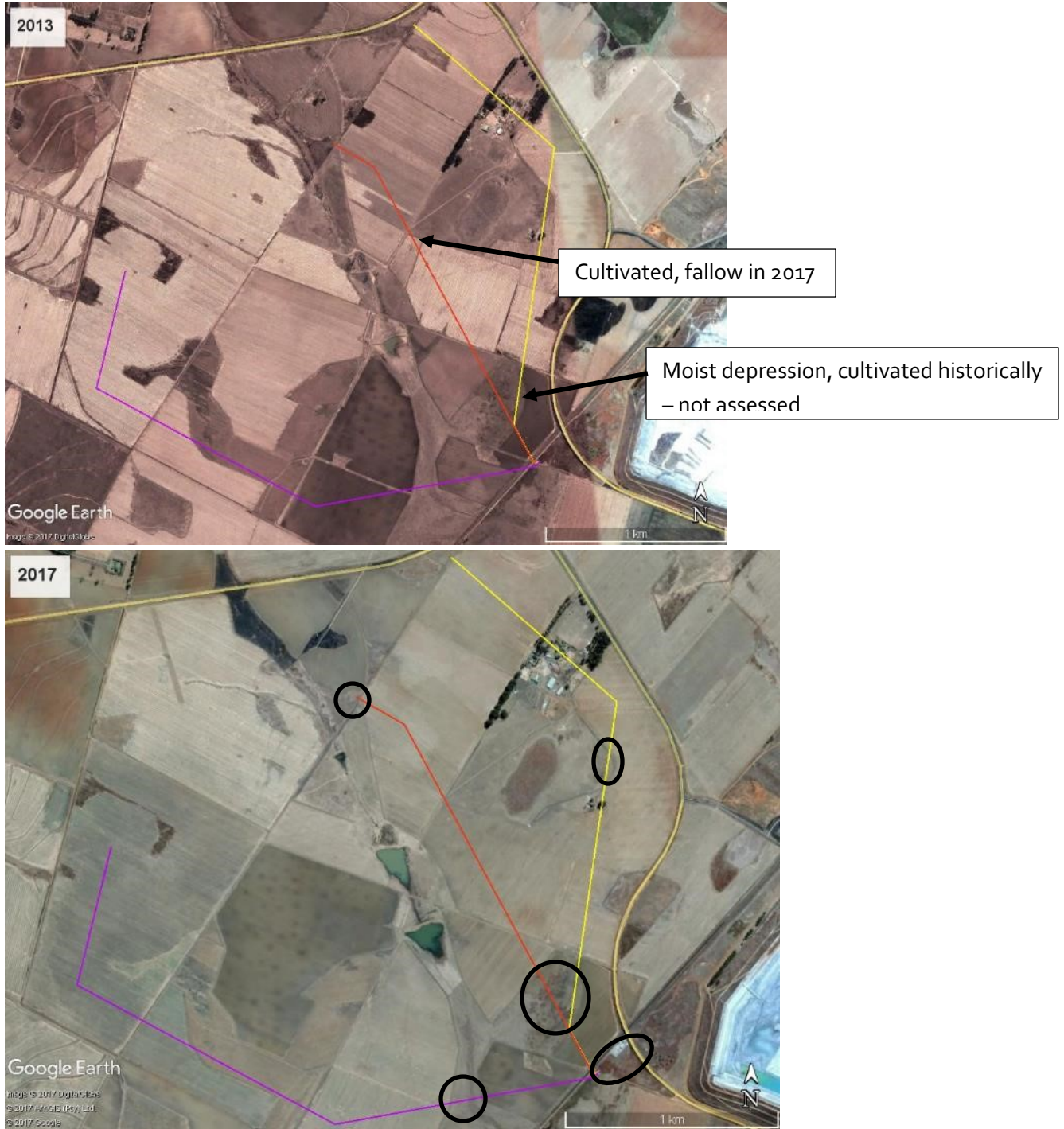


Figure 4: The majority of the project site is cultivated, remaining natural or near-natural (fallow areas) are indicated in black circles on the bottom image

3.2 Vegetation

Other than the cultivated fields, the vegetation traversed by the proposed alternatives include moist grassland and small pockets of secondary grassland. Secondary grassland were noted along Alternative 1 where cultivation or prior disturbances due to the existing powerline and edge effects from cultivation resulted in a change from the species composition (Table 1; Figure 5). The secondary grasslands are small with a lower species diversity than what would be expected from Eastern Highveld Grassland.

All three proposed routes traverse moist grasslands in various stages of disturbance. Alternative 3 aligns north-east of a pan area, traversing a small portion of moist grassland (Photograph 1), while another pan depression along alternative 1 & 3 was historically ploughed and not assessed at the time of the site visit. The forb diversity at the pans was limited. The moist grassland along Alternative 1 was intact, diverse and has a likelihood of supporting plant species of conservation concern (Photograph 2).



Photograph 1: Pan depressions are embedded in moist grasslands just west of Alternative 3



Photograph 2: Intact moist grassland that will be traversed by Alternative 2

The substation locality is situated within moist grassland dominated by *Imperata cylindrica* (cotton wool grass) and *Typha capensis* (bulrush) (Photograph 3).



Photograph 3: View to the substation in the distance, situated within moist grassland dominated by *Typha capensis* and *Imperata cylindrica*

Table 1: Summary of the prominent species within the moist and secondary grassland

Secondary grassland	Moist grassland	Pan depressions
Dominant taxa recorded		
<u>Grasses:</u> <i>Hyparrhenia hirta</i> , <i>Eragrostis chloromelas</i> , <i>E curvula</i> , <i>Cynodon dactylon</i> <u>Forbs:</u> <i>Helichrysum rugulosum</i>	<u>Sedges:</u> <i>Typha capensis</i> (at substation), <i>Schoenoplectus corymbosus</i> , <i>Fimbristylis complanata</i> subsp. <i>complanata</i> <u>Grasses:</u> <i>Imperata cylindrica</i> (at substation), <i>Agrostis lachnantha</i> , <u>Forbs:</u> <i>Falkia oblonga</i> , <i>Ranunculus multifidus</i>	<u>Sedges:</u> <i>Eleocharis dregeana</i> <u>Grasses:</u> (<i>Panicum coloratum</i>), <i>Cynodon dactylon</i>
Other species:		
<u>Shrubs:</u> <i>Stoebe plumosa</i> <u>Grasses:</u> <i>Melinis repens</i> , <i>Themeda triandra</i> , <u>Forbs:</u> <i>Selago densiflora</i> , <i>Senecio consanguineus</i>	<u>Sedges:</u> <i>Isolepis setacea</i> , <i>Cyperus congestus</i> , <i>Pycneus macranthus</i> <u>Grasses:</u> <i>Eragrostis plana</i> , <i>Setaria species</i> , <i>Paspalum urvillei</i> , <i>Arundinella nepalensis</i> <u>Forbs:</u> <i>Centella asiatica</i> , <i>Cynium tubulosum</i> , <i>Cephalaria zeyheriana</i> , <i>Lobelia erinus</i> , <i>Monopsis decipiens</i> , <i>Commelina subulata</i> . <i>Trachyandra aperata</i>	<u>Sedges:</u> <i>Cyperus laevigatus</i> , <i>Pycneus macranthus</i> <i>Fimbristylis complanata</i> subsp. <i>complanata</i> <u>Grasses:</u> <i>Pennisetum thunbergii</i> <u>Forbs:</u> <i>Senecio consanguineus</i>
Protected or threatened plant species		
None	<i>Crinum bulbispermum</i>	None
Alien and/or invasive plant species		
<i>Acacia mearsnii</i> , <i>Verbena bonariensis</i>	<i>Verbena bonariensis</i> , <i>Cirsium vulgare</i>	None

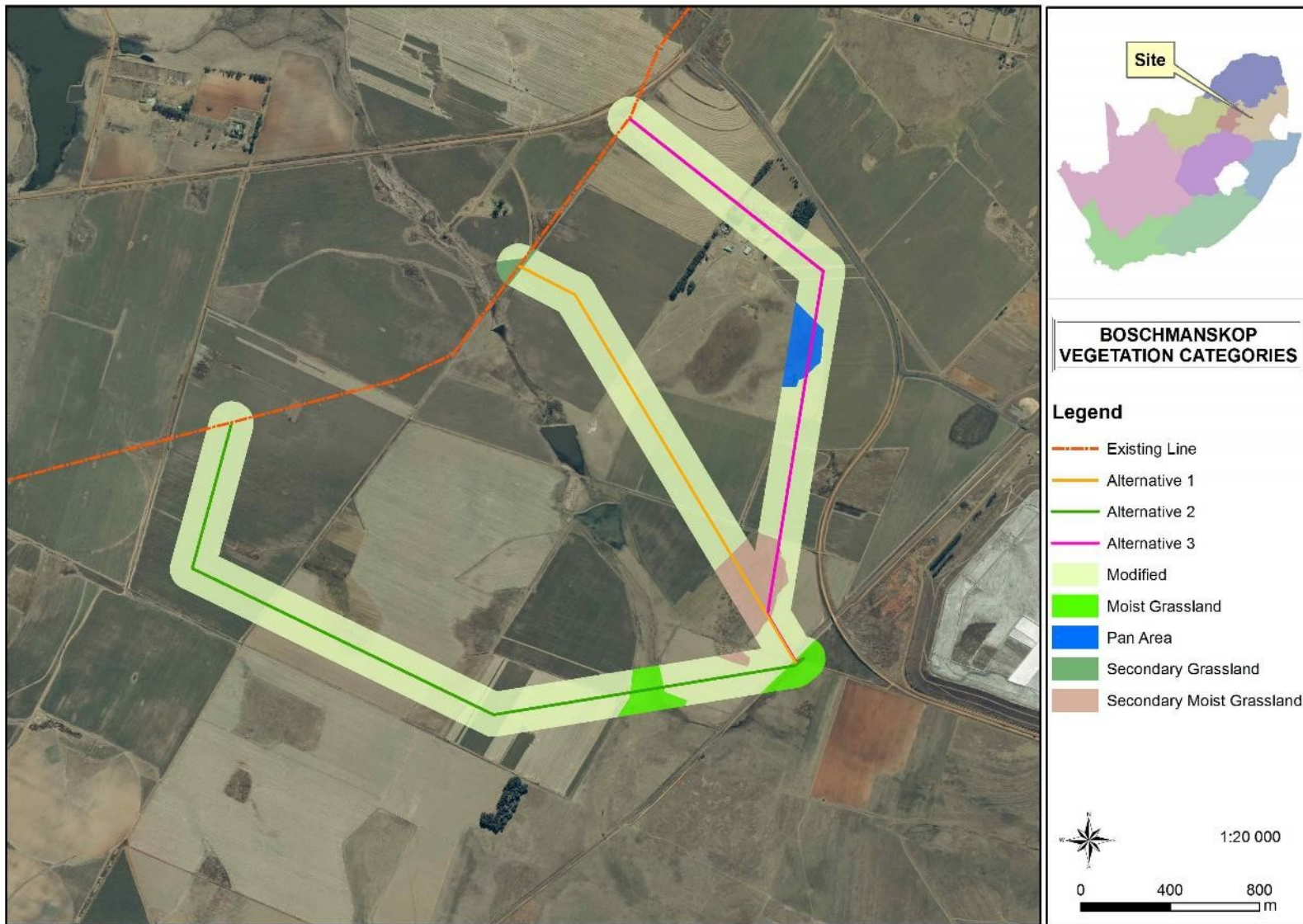


Figure 5: Broad vegetation categories

3.3 Plants of Conservation Importance

A list of plants of conservation concern that may occur on or around the project site was compiled using information from the Plants of Southern Africa (POSA) website, as well as historic information received from the Mpumalanga Tourism and Parks Agency (MTPA) (Table 2). Of these species, the geophyte *Crinum bulbispermum* was recorded in the moist grassland that will be traversed by Alternative 2.

Table 2: Plant species of conservation concern that occur in the area

Specie	Conservation status	Likelihood of occurrence	Flowering time
<i>Boophone disticha</i>	Declining (reclassified as Least Concern nationally)	Rocky grasslands, but particularly in proximity or on rocky outcrops– <u>no suitable habitat on the project site.</u>	Oct-Jan
<i>Crinum bulbispermum</i>	Declining (reclassified as Least Concern nationally)	"This bulb occurs near rivers, streams, seasonal pans and in damp depressions. Confirmed to occur within the moist grassland along Alternative 2."	Sept-Nov
<i>Eucomis autumnalis</i>	Declining (reclassified as Least Concern nationally)	Damp, open grassland and sheltered places between rocks. <u>Potential to occur,</u> however, not recorded on the project site at the time of the site visit.	Nov-April
<i>Eulophia cooperi</i>	LC, but Rare in Mpumalanga	Open grassland and quartzite ridges– <u>no suitable habitat on the project site</u>	Spring
<i>Khadia carolinensis</i>	Vulnerable	Well-drained sandy loam soils among rocky outcrops – <u>no suitable habitat on the project site</u>	-
<i>Miraglossum davyi</i>	Vulnerable	Grassland. <u>No suitable habitat on the project site</u>	Nov-Jan

3.4 Provincially Protected Plants

A number of plants are provincially protected by the Mpumalanga Nature Conservation Act, 1998 (Act No. 10 of 1998). These species may not be removed, pruned or damaged without a permit from the Mpumalanga Tourism and Parks Agency (MTPA).

Crinum bulbispermum, confirmed to be present in the moist grassland, is protected by this legislation. A number of taxa such as *Kniphofia* and *Eucomis*, may also be present within the moist grasslands.

4. VEGETATION SENSITIVITY

It has been clearly demonstrated that vegetation not only forms the basis of the trophic pyramid in an ecosystem, but also plays a crucial role in providing the physical habitat within which organisms complete their life cycles (Kent & Coker 1992). Therefore, the vegetation of an area will largely determine the ecological sensitivity thereof.

In order to determine the vegetation condition and importance along the proposed route alternatives, weighting scores as listed below (Table 3) were applied. Vegetation of conservation importance were classified based on the findings of the study and the criteria as listed in Appendix A. The sensitivity analysis results were classified as per Table 4 and geographically presented in Figure 5.

Table 3: Weighting scores

Scoring	13-18	7-12	0-6
Sensitivity	High	Medium	Low

Table 4: Scoring of vegetation that occur on and within 100m of the site

Broad vegetation community	Conservation Status of regional Vegetation	Predominant state	Level of protection	Plants of conservation concern	Ecological Function	Conservation Importance / unique habitat	Total Score out of max of 18	Importance and vulnerability
Modified	0	0	0	0	1	0	1	low
Secondary grassland	2	1	0	0	2	2	7	medium
Pan areas or secondary moist grasslands	2	1	3	1	2	3	12	medium
Moist grassland	2	2	3	2	2	3	14	high

The majority of the vegetation that can directly be impacted on by the proposed alternatives are classified as modified and in a poor ecological condition. The moist grassland in the southern extent of Alternative 2 were observed to be in good ecological condition and of high sensitivity, whereas the pan areas or moist areas that was historically disturbed, were classified as being of medium sensitivity.

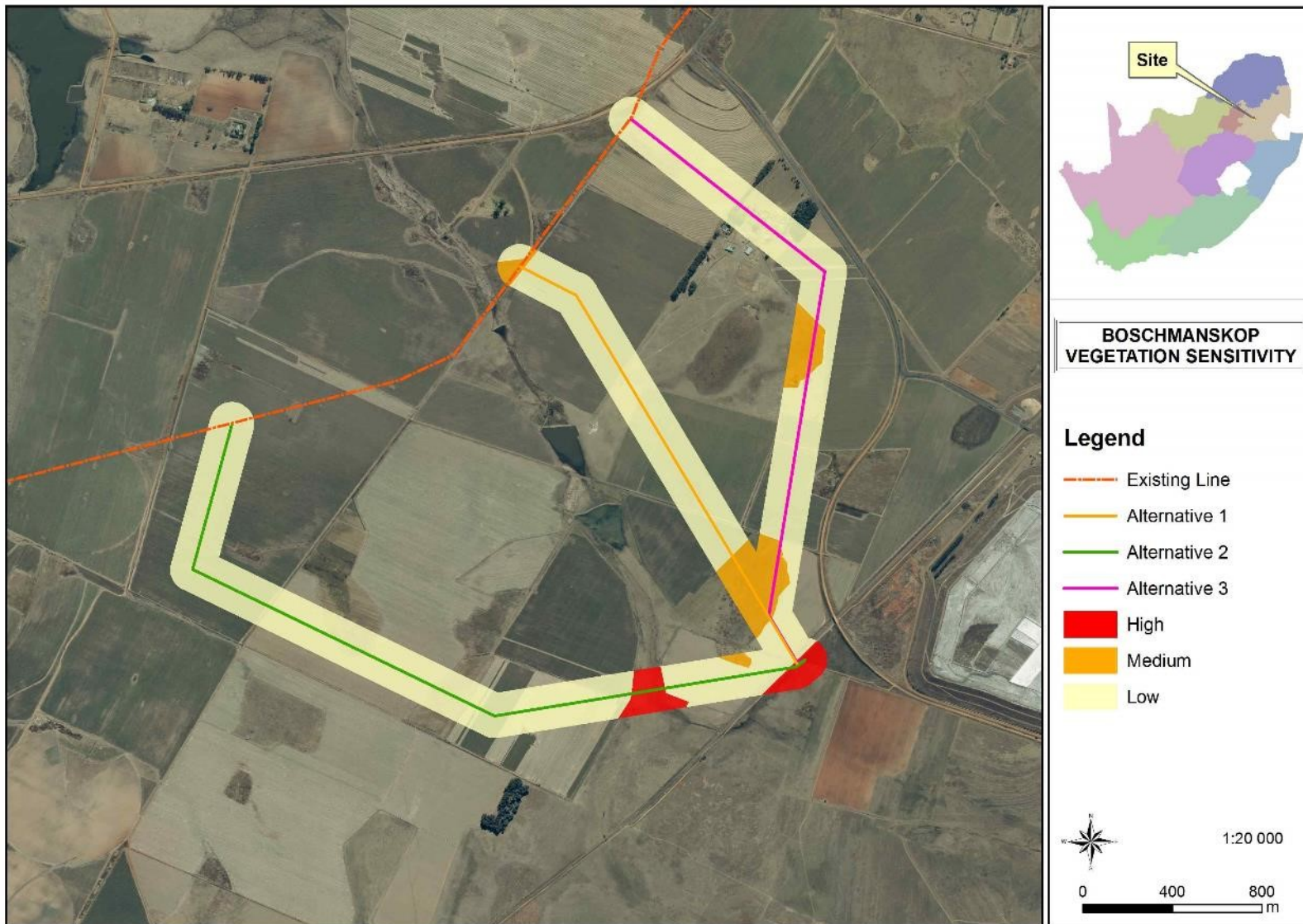


Figure 6: Sensitivity map

5. IMPACT STATEMENT AND CONCLUSION

This assessment found that all three (3) alternatives include modified areas of a low sensitivity to the proposed powerline construction and the impacts in such areas are envisaged to be minimal. However, the moist grasslands along Alternative 2 and at the substation locality pose a significant constraint to the powerlines. Only one pan area that was historically disturbed/cultivated will be directly traversed by Alternative 1 and 3. All three alternatives will impact on the moist grassland around the substation locality.

The most significant impact of the powerline construction is expected to occur during the construction phase and within or close to moist grasslands.

- Alternative 1 has a lower probability of causing direct impacts on intact moist grassland vegetation as most the route comprise secondary vegetation or are modified. This route is thus preferred from a vegetation perspective.
- However, should Alternative 1 for any reason highlighted by other specialist be unsuitable, this vegetation opinion has no objection if Alternative 3 is implemented, provided that mitigation measures are applied to limit the impact on the vegetation to a minimum.
- Alternative 2 could be considered only if the moist grassland area can be spanned. The area spanned should include the wetland boundary and recommended buffer as per the wetland delineation report undertaken concurrently to this report (Limosella Consulting, 2017), and no construction related activities be allowed to impact on the moist grassland directly or indirectly.

The excavation of soil for the base of pylons would remove vegetation that can be replanted as sods after the construction and its re-establishment monitored to ensure that the soil and vegetation rehabilitate over time. The greatest threat to the rehabilitation of the land disturbed by construction, is the potential of invasive plant species rapidly establishing on the disturbed soil and spreading into adjacent natural areas. The category 1b invasive *Verbena bonariensis* and *Cirsium vulgare* were recorded in moist grasslands, as well as the category 2 *Acacia mearnsii* (wattle). If remedial measures and monitoring are properly implemented, the vegetation that will be disturbed during construction could rehabilitate well over time, and long term impacts on vegetation could thus be minimal. Once in use, the powerlines have relatively contained impacts on the vegetation and can successfully be mitigated to limit or even negate the negative impacts.

Recommended mitigation measures:

Construction

- The wetland boundaries and recommend protective buffer zone as reported on by the wetland assessment should be adhered to and if development proceed within a wetland area, the relevant legislation and mitigation as suggested by the wetland report must be adhered to.
- Camps and storage of equipment should be located outside of the moist grasslands.

- The use of heavy vehicles and machinery must be limited to prevent soil compaction. Due to the short distance of the loops equipment etc could be carried or make use of lightweight alternatives.
- No activities should take place during rainy events and at least 2 days afterwards.
- Retain vegetation and soil in position for as long as possible, removing it immediately ahead of construction / earthworks in that area (DWAF, 2005).
- Remove only the vegetation where essential for construction and do not allow any disturbance to the adjoining natural vegetation cover.
- During construction, grassland can be removed as sods and replanted during rehabilitation of the areas affected by construction.
- If any construction will take place within the moist grasslands, the construction footprint must be scanned for the presence of plant species of conservation concern (e.g. *Crinum bulbispermum*). These should ideally be avoided and can only be removed and relocated with permission of the MTPA
- Trucks and equipment should only be washed in dedicated areas and the dirty water is not allowed to discharge into the moist grasslands.
- Prevent contamination of rainwater on construction camps and sites.
- Place and maintain erosion control barriers as appropriate to prevent sedimentation into the watercourse and moist grasslands
- After construction, the land must be cleared of rubbish, surplus materials, and equipment, and all parts of the land must be left in a condition as close as possible to that prior to construction.
- All construction vehicles and equipment, as well as construction material should be free of plant material. Therefore, all equipment and vehicles should be thoroughly cleaned prior to access on to the construction areas. This should be verified by the ECO.
- All alien seedlings and saplings must be removed as they become evident for the duration of construction.
- Colonisation of the disturbed areas by plants species from the surrounding natural vegetation must be monitored to ensure that vegetation cover is sufficient within one growing season. If not, then the areas need to be rehabilitated with a grass seed mix containing species that naturally occur within the study area. It is recommended that grasslands in the way of construction, be removed as sods that can be replanted as part of rehabilitation.

Maintenance / operation:

- Maintenance activities should be restricted to previously disturbed areas, while limiting any vegetation loss.
- No pollutants should be allowed to reach the moist grassland and surrounding vegetation.
- Ensure that maintenance work does not take place haphazardly, but according to a fixed plan.
- Cordon off areas that are under rehabilitation as no-go areas using danger tape and steel droppers. If necessary, these areas should be fenced off to prevent vehicular, pedestrian and livestock access.

- Maintenance workers may not trample natural vegetation and work should be restricted to previously disturbed footprint. In addition, mitigation measures as set out for the construction phase should be adhered to.
- Introduce adequate sedimentation control measures at watercourse crossings and when excavation or disturbance within moist grasslands takes place.
- Address erosion donga crossings, applying soil erosion control and bank stabilisation procedures as specified by the ECO.
- Repair all erosion damage as soon as possible and in any case not later than six months before the termination of the Maintenance Period to allow for sufficient rehabilitation growth.
- Implement an alien invasive plant monitoring and management plan whereby the spread of alien and invasive plant species into the areas disturbed by the construction are regularly removed and re-infestation monitored.
- If plant species of conservation concern were relocated, their survival should be monitored for at least two years post relocation.

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7. GLOSSARY

Biome	A major biotic unit consisting of plant and animal communities having similarities in form and environmental conditions, but not including the abiotic portion of the environment.
Buffer zone	A collar of land that filters edge effects.
Conservation	The management of the biosphere so that it may yield the greatest sustainable benefit to present generation while maintaining its potential to meet the needs and aspirations of future generations. The wise use of natural resources to prevent loss of ecosystems function and integrity.
Conservation concern (Plants of..)	Plants of conservation concern are those plants that are important for South Africa's conservation decision making processes and include all plants that are Threatened (see Threatened), Extinct in the wild, Data deficient, Near threatened , Critically rare, Rare and Declining . These plants are nationally protected by the National Environmental Management: Biodiversity Act. Within the context of these reports, plants that are provincially protected are also discussed under this heading.
Conservation status	An indicator of the likelihood that species remaining extant either in the present day or the near future. Many factors are taken into account when assessing the conservation status of a species: not simply the number remaining, but the overall increase or decrease in the population over time, breeding success rates, known threats, and so on.
Edge effect	Inappropriate influences from surrounding activities, which physically degrade habitat, endanger resident biota and reduce the functional size of remnant fragments including, for example, the effects of invasive plant and animal species, physical damage and soil compaction caused through trampling and harvesting, abiotic habitat alterations and pollution
Indigenous	Any species of plant, shrub or tree that occurs naturally in South Africa
Mitigation	The implementation of practical measures to reduce adverse impacts
Protected Plant	According to Provincial Nature Conservation Ordinances or Acts, no one is allowed to sell, buy, transport, or remove this plant without a permit from the responsible authority. These plants are protected by provincial legislation.
Red Data	A list of species, fauna and flora that require environmental protection - based on the IUCN definitions. <i>Now termed Plants of Conservation Concern</i>
Species diversity	A measure of the number and relative abundance of species
Species richness	The number of species in an area or habitat
Threatened	Threatened Species are those that are facing a high risk of extinction, indicated by placing in the categories Critically Endangered (CR), Endangered (E) and Vulnerable (VU) (Raimondo <i>et al</i> , 2009)
Transformation	The removal or radical disturbance of natural vegetation, for example by crop agriculture, plantation forestry, mining or urban development. Transformation mostly results in a serious and permanent loss of biodiversity and fragmentation of ecosystems, which in turn lead to the failure of ecological processes. Remnants of biodiversity may survive in transformed landscapes

APPENDIX A: METHODOLOGY-vegetation

The study was undertaken on the 30th of November 2017. The assessment entailed a literature review which included short listing plants of conservation concern that could potentially occur, a site visit and reporting.

Literature Review:

The description of the regional vegetation relied on literature from Mucina & Rutherford (2006). Plant names follow Van Wyk & Van Wyk (1997), Van Wyk & Malan (1997), Pooley (1998), Henderson (2001), Van Oudtshoorn (2002) and Bromilow (2010).

Field survey:

The field survey focussed on walking transects and identifying natural and untransformed vegetation, unique features that could indicate local sensitivities such as threatened and protected plants, as well as sensitive ecological features such as wetlands, ridges and rivers that are essential for the maintenance of ecosystems and ecological processes.

Vegetation Sensitivity

The following criteria and weighting was used to determine the vegetation sensitivity, function and conservation importance:

1. The status of the regional vegetation that is expected to occur on the study site, only where natural vegetation is still remaining.

Conservation status*	Scoring
Critically Endangered	3
Endangered	2
Vulnerable	1
Least threatened	0

*This scoring is not applicable (N/A) for areas devoid of natural vegetation.

2. State of the vegetation

Listed Ecosystem*	Scoring
Primary state	3
Sub-climax state	2
Secondary state	1
No natural vegetation remaining	0

3. Whether the vegetation or ecological feature is protected by legislation:

Listed Ecosystem*	Scoring
National legislation	3
Provincial policies and guidelines	2
Municipal or other protection	1
No legislated protection	0

4. The presence of suitable habitat for plants of conservation concern as well as the actual occurrence thereof.

Suitable habitat / presence	Scoring
Confirmed presence	3
Confirmed presence of Declining species and Suitable habitat and some likelihood of occurrence of Threatened species	2
Suitable habitat but unlikely to occur	1
No suitable habitat	0

5. Ecological Function: areas important to ecological processes such as ecological corridors, hydrological processes and important topographical features such as ridges.

Ecological function	Scoring
High: Sensitive vegetation communities with low inherent resistance or resilience towards disturbance factors; vegetation that are considered important for the maintenance of ecosystem integrity. Most of these vegetation communities represent late succession ecosystems with high connectivity with other important ecological systems.	3
Medium to high: Vegetation communities that occur at disturbances of low-medium intensity and representative of secondary succession stages with a high degree of connectivity with other ecological systems OR disturbed vegetation connected to an ecological and protected system e.g. ridge, wetland or river	2
Medium: Vegetation communities that occur at disturbances of low-medium intensity and representative of secondary succession stages with some degree or limited connectivity with other ecological systems	1
Low: Degraded and highly disturbed vegetation with little ecological function	0

6. Conservation Importance: indication of the necessity to conserve areas based on factors such as the importance of the site on a national and/or provincial scale and on the ecological state of the area (degraded or pristine). This is determined by the presence of a high diversity, rare or endemic species and areas that are protected by legislation.

Ecological importance	Scoring
High: Ecosystems with high species diversity and usually provide suitable habitat for a number of threatened species. OR protected ecosystems e.g. wetlands, riparian vegetation etc These areas should be protected	3
Medium to high: Ecosystems with intermediate levels of species with the possible occurrence of threatened species	2
Medium: Ecosystems with intermediate levels of species diversity without any threatened species.	1
Low: Areas with little or no conservation potential and usually species poor (most species are usually exotic).	0