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**SITE SENSITIVITY VERIFICATION
AND
AGRICULTURAL COMPLIANCE STATEMENT
FOR THE PROPOSED CONSTRUCTION AND OPERATION
OF THE ELECTRICAL GRID CONNECTION INFRASTRUCTURE
RELATED TO THE CAMDEN 1 WIND ENERGY FACILITY
NEAR ERMELO IN MPUMALANGA PROVINCE**

**Report by
Johann Lanz**

8 December 2022

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EXECUTIVE SUMMARY

The key findings of this study are:

- The conclusion of this assessment is that the proposed development will have low agricultural impact and will therefore be acceptable in terms of its impact on the agricultural production capability of the site. The only impact of this development is the loss of approximately 1.5 hectares of agricultural land on the site of the substation. This is assessed as being of low significance because the amount of land loss is small and the production potential of the land on the preferred site is limited to being unsuitable for crop production and only suitable as grazing land.
- The powerline itself has insignificant agricultural impact because all agricultural activities that are viable in this environment, can continue completely unhindered underneath the powerline and there will therefore be no loss of agricultural production potential underneath it.
- The only potential source of impact from the powerline is minimal disturbance to the land (erosion and topsoil loss) during construction (and decommissioning). This impact can be completely mitigated with standard, generic mitigation measures that are included in the generic EMPr (as developed by the DFFE).
- From an agricultural impact point of view, it is recommended that the development be approved.
- Because of the insignificant agricultural impact of the powerline, there can be no material difference between the agricultural impacts of any of the alternative powerline routes. All proposed route alternatives are considered equally acceptable in terms of agricultural impact. In terms of the substation site, the northern site is the preferred one from an agricultural impact point of view because it results in less agricultural impact, but both alternatives are acceptable because of the very small area of land that is impacted.
- The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is only subject to the condition that the pylon locations minimize agricultural impacts by being located, wherever possible, outside of or on the edges of cropland so that they do not interfere with crop production. Pylon locations should be assessed and approved by an agricultural specialist during the final micro-siting walk-through exercise that occurs after Environmental Authorisation and prior to construction. A desktop assessment of the pylon positions using satellite imagery will be adequate for this purpose.

1 INTRODUCTION

Environmental authorisation is being sought for the proposed construction and operation of the electrical grid connection infrastructure related to the Camden 1 Wind Energy Facility (see location in Figure 1). In terms of the National Environmental Management Act (Act No 107 of 1998 - NEMA), an application for environmental authorisation requires an agricultural assessment.



Figure 1. Locality map of the proposed grid connection infrastructure, south-east of Ermelo, showing all alternatives. Note that a 500m wide powerline corridor (250m either side of the centre lines) is the subject of this assessment.

Johann Lanz was appointed as an independent agricultural specialist to conduct the agricultural assessment. The objective and focus of an agricultural assessment is to assess whether or not the proposed development will have an unacceptable agricultural impact, and based on this, to make a recommendation on whether or not it should be approved.

The purpose of the agricultural component in the environmental assessment process is to preserve the agricultural production potential, particularly of scarce arable land, by ensuring that development does not exclude existing or potential agricultural production from such land or impact it to the extent that its future production potential is reduced. However, this project poses very little threat to agricultural production potential.

The study area of this assessment is a 500m wide corridor (250m either side of the centre-line) around all the powerline alternatives, as well as the connecting and terminating substation infrastructure, to allow for micro-siting and avoidance of sensitivities, where possible. Unless stated otherwise in this report, all infrastructure discussed or depicted in figures are therefore understood to include this assessment corridor.

2 PROJECT DESCRIPTION

It is proposed that Camden I Wind Energy Facility will connect to the nearby Camden Collector substation (which in turn will connect to the Camden Power Station), through an up to 132kV powerline (either single or double circuit) between the grid connection substation portion (immediately adjacent the Camden I on-site IPP substation portion) and that of the Camden Collector substation. The powerline will be approximately 14km in length, depending on the authorized location of the collector substation. The onsite grid connection substation will consist of high voltage substation yard to allow for multiple (up to) 132kV feeder bays and transformers, control building, telecommunication infrastructure, access roads, etc. The area for the onsite substation will be up to 1.5ha. The up to 132kV powerline and substation will have a 500m assessment corridor (250m either side of the centre line), to allow for technical placement and micro-siting as required, including around the on-site grid connection substation and the terminating works required at the Collector Substation (MTS). This application includes the necessary up to 132kV voltage electrical components required for connection at the Collector Substation, the substation infrastructure immediately adjacent the Camden I on-site IPP substation portion, as well as the overhead powerline infrastructure between the two substation connections.

There are different layout alternatives because there are different alternatives for the location of the Camden 1 Wind Energy Facility substation.

3 TERMS OF REFERENCE

The terms of reference for this study is to fulfill the requirements of the *Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources* gazetted on 20 March 2020 in GN 320 (in terms of Sections 24(5)(A) and (H) and 44 of NEMA, 1998).

The level of agricultural assessment required, in terms of the protocol, for grid connection infrastructure, which is linear infrastructure, is an Agricultural Compliance Statement.

The terms of reference for an Agricultural Compliance Statement, as stipulated in the protocol, are listed below, and the section number of this report which fulfils each stipulation is given after it in

brackets.

1. The Agricultural Compliance Statement must be prepared by a soil scientist or agricultural specialist registered with the South African Council for Natural Scientific Professions (SACNASP) **(Appendix 1)**.
2. The compliance statement must:
 1. be applicable to the preferred site and proposed development footprint **(Figure 1)**;
 2. confirm that the site is of “low” or “medium” sensitivity for agriculture **(Section 7)**; and
 3. indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site **(Section 11)**.
3. The Agricultural Compliance Statement must contain, as a minimum, the following information:
 1. details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vitae **(Appendix 1)**;
 2. a signed statement of independence by the specialist **(Appendix 2)**;
 3. a map showing the proposed development footprint (including supporting infrastructure) with a 50 m buffered development envelope, overlaid on the agricultural sensitivity map generated by the screening tool **(Figure 2)**;
 4. confirmation from the specialist that all reasonable measures have been taken through micro-siting to avoid or minimize fragmentation and disturbance of agricultural activities **(Section 9.5)**;
 5. a substantiated statement from the soil scientist or agricultural specialist on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development **(Section 11)**;
 6. any conditions to which this statement is subjected **(Section 11)**;
 7. in the case of a linear activity, confirmation from the agricultural specialist or soil scientist, that in their opinion, based on the mitigation and remedial measures proposed, the land can be returned to the current state within two years of completion of the construction phase **(Section 9.6)**;
 8. where required, proposed impact management outcomes or any monitoring requirements for inclusion in the EMPr **(Section 10)**; and
 9. a description of the assumptions made and any uncertainties or gaps in knowledge or data **(Section 5)**.

4 METHODOLOGY OF STUDY

This report adheres to the process and content requirements of the gazetted agricultural protocol as outlined in Section 3 above. As per the requirement, the assessment was based on a desktop

analysis of existing soil and agricultural potential data for the site. A site investigation was completed for the associated Camden 1 Wind Energy Facility, which included the substation sites. This site assessment was achieved by a drive and walk-over investigation across the wind farm site conducted on 29 March 2022. An interview was also conducted with farmer, Louis Reyneke, to get details of farming practices on the site. The soil investigation was based on the investigation of existing excavations and exposures, soil auger samples as well as indications of the surface conditions and topography. Soils were classified according to the South African soil classification system (Soil Classification Working Group, 1991). This level of soil assessment is considered entirely adequate for an understanding of on-site soil potential for the purposes of this assessment. A specific site investigation was not considered necessary for the powerline assessment, including for its site sensitivity verification. This is because the overhead powerlines have negligible agricultural impact, regardless of the sensitivity of the land they cross, and sensitivity verification therefore has very little relevance to the powerline assessment.

The following sources of information were used:

- Soil data was sourced from the land type data set, of the Department of Agriculture, Forestry and Fisheries (DAFF). This data set originates from the land type survey that was conducted from the 1970's until 2002. It is the most reliable and comprehensive national database of soil information in South Africa and although the data was collected some time ago, it is still entirely relevant as the soil characteristics included in the land type data do not change within time scales of hundreds of years.
- Land capability data was sourced from the 2017 National land capability evaluation raster data layer produced by the DAFF, Pretoria.
- Field crop boundaries were sourced from Crop Estimates Consortium, 2019. *Field Crop Boundary data layer, 2019*. Pretoria. Department of Agriculture, Forestry and Fisheries.
- Rainfall and evaporation data was sourced from the SA Atlas of Climatology and Agrohydrology (2009, R.E. Schulze) available on Cape Farm Mapper. Note that Cape Farm Mapper includes national coverage of climate, grazing and certain other data.
- Grazing capacity data was sourced from the 2018 DAFF long-term grazing capacity map for South Africa, available on Cape Farm Mapper.
- Satellite imagery of the site and surrounds was sourced from Google Earth.

5 ASSUMPTIONS, UNCERTAINTIES OR GAPS IN KNOWLEDGE OR DATA

There are no specific assumptions, uncertainties or gaps in knowledge or data that affect the findings of this study.

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

A substation requires approval from the National Department of Agriculture, Land Reform and Rural Development (DALRRD) if the facility is on agriculturally zoned land. There are two approvals that apply. The first is a No Objection Letter for the change in land use. This letter is one of the requirements for receiving municipal rezoning. It is advisable to apply for this as early in the development process as possible because not receiving this DALRRD approval is a fatal flaw for a project. Note that a positive EA does not assure DALRRD's approval of this. This application requires a motivation backed by good evidence that the development is acceptable in terms of its impact on the agricultural production potential of the development site. This assessment report will serve that purpose.

The second required approval is a consent for long-term lease in terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA). If DALRRD approval for the development has already been obtained in the form of the No Objection letter, then SALA approval should not present any difficulties. Note that SALA approval is not required if the lease is over the entire farm portion. SALA approval (if required) can only be applied for once the Municipal Rezoning Certificate and Environmental Authorisation has been obtained.

Powerlines require the registration of a servitude for each farm portion crossed. In terms of the Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA), the registration of a powerline servitude requires written consent of the Minister unless either of the following two conditions apply:

1. if the servitude width does not exceed 15 metres; and
2. if Eskom is the applicant for the servitude.

If one or both of these conditions apply, then no agricultural consent is required. The second condition is likely to apply, even if another entity gets Environmental Authorisation for and constructs the powerline, but then hands it over to Eskom for its operation. Eskom is currently exempt from agricultural consent for powerline servitudes.

Rehabilitation after disturbance to agricultural land is managed by the Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA). A consent in terms of CARA is required for the cultivation of virgin land. Cultivation is defined in CARA as "any act by means of which the topsoil is disturbed mechanically". The purpose of this consent for the cultivation of virgin land is to ensure that only land that is suitable as arable land is cultivated. Therefore, despite the above definition of cultivation, disturbance to the topsoil that results from construction of infrastructure does not constitute cultivation as it is understood in CARA. This has been corroborated by Anneliza Collett

(Acting Scientific Manager: Natural Resources Inventories and Assessments in the Directorate: Land and Soil Management of the Department of Agriculture, Land Reform and Rural Development (DALRRD)). The construction and operation of the facility will therefore not require consent from the Department of Agriculture, Land Reform and Rural Development in terms of this provision of CARA.

7 SITE SENSITIVITY VERIFICATION

In terms of the gazetted agricultural protocol, a site sensitivity verification must be submitted that:

1. confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;
2. contains a motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

Agricultural sensitivity is a direct function of the capability of the land for agricultural production. All arable land that can support viable crop production, is classified as high (or very high) sensitivity. This is because there is a scarcity of arable production land in South Africa and its conservation for agricultural use is therefore a priority. Land which cannot support viable crop production is much less of a priority to conserve for agricultural use, and is rated as medium or low agricultural sensitivity.

It is important to recognise that the agricultural sensitivity of land, in terms of a particular development, is not only a function of the screening tool sensitivity, but is also a function of the severity of the impact which that development poses to agriculture. This is not recognised in the screening tool classification of sensitivity. So, for example, the sensitivity of an agricultural environment to overhead powerlines is not what the screening tool classifies the sensitivity as, because most agricultural environments have a very low sensitivity to overhead powerlines. This is because powerlines have negligible agricultural impact in most environments, regardless of the agricultural production potential of the land that they cross (see Section 9). Therefore, in the context of the development of overhead powerlines, almost no land can be considered to have high sensitivity for impacts on agricultural resources. For this reason the screening tool sensitivity of the powerline corridor is largely irrelevant. In this assessment, only the footprint of the substation is of relevance.

The screening tool classifies agricultural sensitivity according to only two independent criteria – the land capability rating and whether the land is used for cropland or not. All cropland is classified as at least high sensitivity, based on the logic that if it is under crop production, it is indeed suitable

for it, irrespective of its land capability rating.

The screening tool sensitivity categories in terms of land capability are based upon the Department of Agriculture's updated and refined, country-wide land capability mapping, released in 2016. The data is generated by GIS modelling. Land capability is defined as the combination of soil, climate and terrain suitability factors for supporting rain fed agricultural production. It is an indication of what level and type of agricultural production can sustainably be achieved on any land, based on its soil, climate and terrain. The higher land capability values (≥ 8 to 15) are likely to be suitable as arable land for crop production, while lower values are only likely to be suitable as non-arable grazing land.

A map of the proposed powerline and substation alternatives, overlaid on the screening tool sensitivity, is given in Figure 2, but as noted above, the screening tool sensitivity of the powerline corridor is largely irrelevant to agricultural impact. The only relevance is that pylons should be located outside of or on the edges of cropland, where possible, so that they minimise interference with crop production.

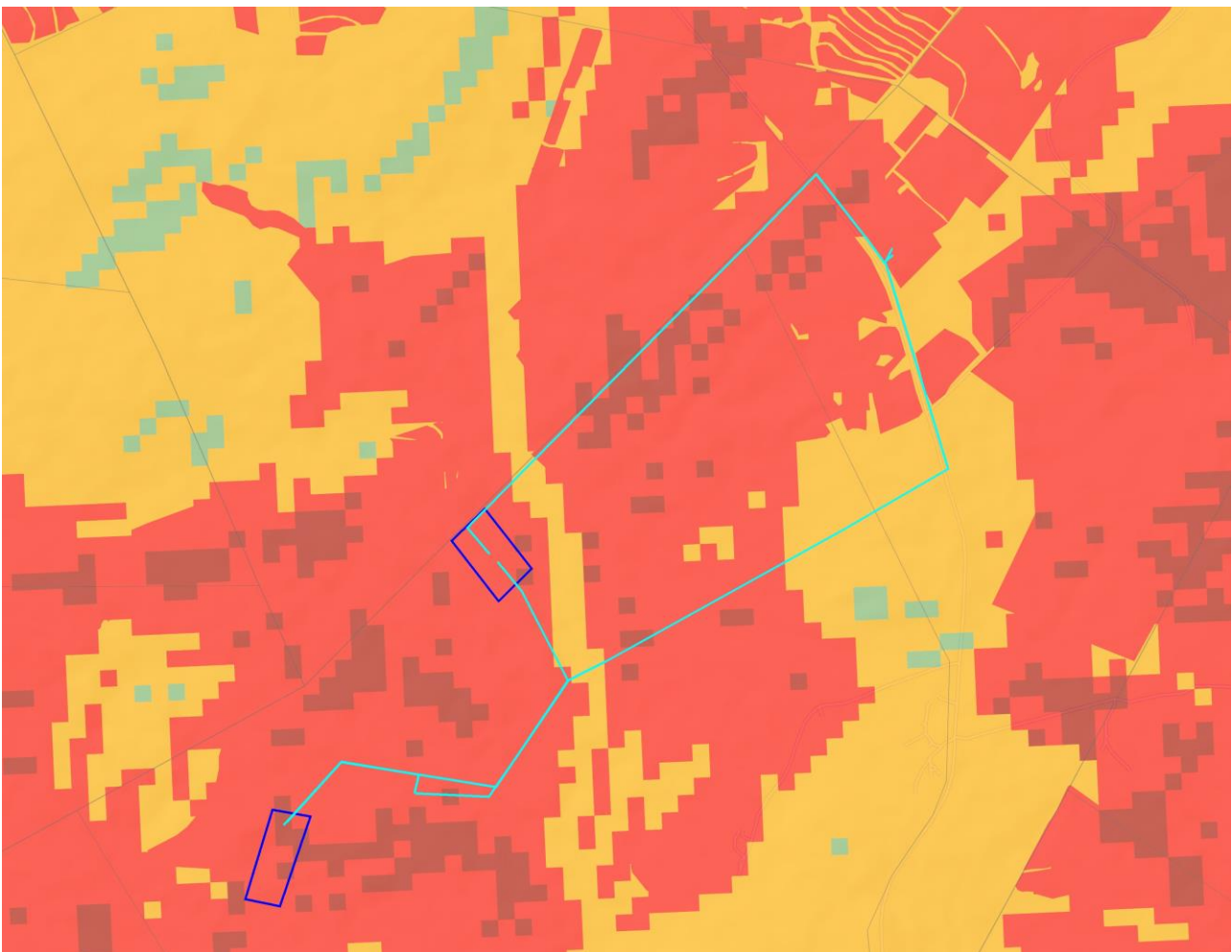


Figure 2. All proposed alternative powerline routes (light blue lines) and alternative substation sites

(dark blue outlines) overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high; dark red = very high). Note that a 500m wide powerline corridor (250m either side of the centre lines) is the subject of this assessment. Note also that the screening tool sensitivity is largely irrelevant to the agricultural impact of the powerline.

The agricultural sensitivity of the substation footprint is relevant because that land will be permanently removed from agricultural production. The classified land capability of the substation site (preferred northern alternative) is 9 to 11 and of the alternative southern site is 10 to 11. Values of 9 to 10 translate to a high agricultural sensitivity and values of 11 to 15 translate to a very high agricultural sensitivity.

However, at the relevant scale for substation sites, historical land use is actually a more reliable indication of soil cropping potential than land capability. The suitable versus the unsuitable soils have been identified over time through trial and error. In an agricultural environment like the one being assessed, all the suitable soils are generally cropped, and uncropped soils can therefore fairly reliably be considered to be unsuitable for crop production. The field-verified and updated indication of which lands should be classified as croplands is given in Figure 3. Therefore, the preferred northern substation site should be classified as medium agricultural sensitivity because it is uncropped and therefore unsuitable for crop production. The alternative southern site includes some areas of cropland that are confirmed as high agricultural sensitivity.

8 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The site has a summer rainfall with a mean annual rainfall of approximately 740 mm and a mean annual evaporation of approximately 1,210 mm (Schulze, 2009). The site is situated on hilly terrain at an altitude of around 1,650 metres and slopes up to about 7%. The footprint falls across two land types, Ba51 and Ca3. The geology is predominantly shale and sandstone of the Ecca Group of the Karoo Supergroup and includes dolerite. Approximately half of both land types comprise deep, red and yellow, reasonably-drained, loamy soils of the Avalon, Hutton, Glencoe, and other soil forms that are good for crop production. The other half comprises other soils that have various limitations for crop production, which are predominantly the result of poor drainage or limited depth due to underlying clay or bedrock. These soils are of the Mispah and Glenrosa soil forms (shallow bedrock) and the Kroonstad, Estcourt Valsrivier, Longlands, and other soil forms (poor drainage and underlying clay). The soils vary in their suitability for crop production, which is predominantly maize and soya beans. Soil that is not suitable for crop production is used as grazing land.



Figure 3. Satellite image map of all proposed alternative powerline routes (light blue lines) and alternative substation sites (dark blue outlines). Note that a 500m wide powerline corridor (250m either side of the centre lines) is the subject of this assessment.

9 ASSESSMENT OF AGRICULTURAL IMPACT

9.1 Impact identification and assessment

An agricultural impact is a temporary or permanent change to the future production potential of land. The significance of the agricultural impact is directly proportional to the extent of the change in production potential. If a development will not change the future production potential of the

land, then there is no agricultural impact.

The proposed overhead powerline has negligible agricultural impact, regardless of its route and design and the agricultural potential of the land it traverse. All agricultural activities can continue completely unhindered underneath the powerline. This is because its direct, permanent, physical footprint that has any potential to interfere with agriculture (pylon bases and servitude track, where it is needed), is insignificantly small and the pylons can mostly, although not always, be located outside of or on the edges of cropland where they minimise interference with crop production. There will therefore be little to no reduction in future agricultural production potential underneath the powerline. The only potential source of impact of the powerline is minimal disturbance to the land (erosion and topsoil loss) during construction (and decommissioning). This impact can be completely mitigated with standard, generic mitigation measures that are included in the generic DFFE EMPr.

The only impact of this development is therefore the loss of approximately 1.5 hectares of agricultural land on the site of the substation. The significance of the loss of agricultural land is a direct function of two things, firstly the amount of land that will be lost and secondly, the production potential of the land that will be lost. In this case the amount of land loss is very small. The production potential of the land on the preferred northern site is limited to being unsuitable for crop production and only suitable as grazing land. Therefore the agricultural impact of the preferred northern alternative is assessed as being of low significance. The production potential of the land on the southern alternative site is partly suitable for crop production. Therefore the agricultural impact of the alternative southern site is higher than that of the preferred northern site but because it only involves the loss of 1.5 hectares, it is still assessed as being of low significance.

9.2 Cumulative impact

The potential cumulative agricultural impact of importance is a regional loss of future agricultural production potential. The defining question for assessing the cumulative agricultural impact is this:

What level of loss of future agricultural production potential is acceptable in the area, and will the loss associated with the proposed development, when considered in the context of all past, present or reasonably foreseeable future impacts, cause that level in the area to be exceeded?

There are a number of non-agricultural developments that are leading to loss of agricultural production potential in the area. However, because this grid connection itself leads to a very small loss of production potential, its cumulative impact is low. It therefore does not make sense to

conduct a more formal assessment of the development's cumulative impacts as per DFFE requirements for cumulative impacts. Many times more electricity grid infrastructure than currently exists, or is currently proposed, can be accommodated before acceptable levels of change in terms of loss of production potential are exceeded. In reality the landscape in this environment could be covered with powerlines and agricultural production potential would be minimally affected.

Due to the considerations discussed above, the cumulative impact of loss of future agricultural production potential can confidently be assessed as being low and therefore not having an unacceptable negative impact on the area. In terms of cumulative impact, the proposed development is therefore acceptable and it is therefore recommended that it be approved.

9.3 Impacts of the no-go alternative

The no-go alternative considers impacts that will occur to the agricultural environment in the absence of the proposed development. There are no agricultural impacts of the no-go alternative, but the agricultural impacts of the development are low, and so there is not a big difference between the agricultural impacts of the proposed development and those of the no-go option. The no-go option would prevent the associated renewable energy facility, which cannot operate without a grid connection, from contributing positive agricultural impacts to the farm as well as contributing to the environmental, social and economic benefits associated with the development of renewable energy in South Africa.

9.4 Comparative assessment of alternatives

Because of the insignificant agricultural impact of the powerline, there can be no material difference between the agricultural impacts of any of the alternative powerline routes. All proposed route alternatives are considered equally acceptable in terms of agricultural impact. In terms of the substation site, the northern site is the preferred one from an agricultural impact point of view because it results in less agricultural impact, but both alternatives are acceptable because of the very small area of land that is impacted.

9.5 Micro-siting to minimize fragmentation and disturbance of agricultural activities

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. The only micro-siting aspect that requires checking is that all pylons have been located outside of or on the edges of cropland where possible, where they minimise interference with crop production. This can only be checked during the final micro-siting walk-through exercise that occurs after

Environmental Authorisation and prior to construction. The actual position of the powerlines themselves within the assessed, 500 metre wide corridor will make no difference to the significance of agricultural impacts.

9.6 Confirmation of linear activity impact

The protocol requires confirmation, in the case of a linear activity, that the land can be returned to the current state within two years of completion of the construction phase. It is hereby confirmed that the land under the overhead powerlines can be returned to the current state of agricultural products this not the same thing, repeated twice on potential within two years of construction. The substation site, however, obviously has a permanent impact.

10 ENVIRONMENTAL MANAGEMENT PROGRAMME INPUTS

There are no additional mitigation measures required, over and above what has already been included in the Generic EMPr for overhead electricity transmission and distribution infrastructure as per Government Notice 435, which was published in Government Gazette 42323 on 22 March 2019, and that of the Generic Environmental Management Programme (EMPr) for the development and expansion of substation infrastructure for the transmission and distribution of electricity as per Government Notice 435, which was published in Government Gazette 42323 on 22 March 2019.

11 CONCLUSIONS

The conclusion of this assessment is that the proposed development will have low agricultural impact and will therefore be acceptable in terms of its impact on the agricultural production capability of the site. The only impact of this development is the loss of approximately 1.5 hectares of agricultural land on the site of the substation. This is assessed as being of low significance because the amount of land loss is very small and the production potential of the land on the preferred site is limited to being unsuitable for crop production and only suitable as grazing land.

The powerline itself has insignificant agricultural impact because all agricultural activities that are viable in this environment, can continue completely unhindered underneath the powerline and there will therefore be no loss of agricultural production potential underneath it.

The only potential source of impact from the powerline is minimal disturbance to the land (erosion and topsoil loss) during construction (and decommissioning). This impact can be completely mitigated with standard, generic mitigation measures that are included in the DFFE Generic EMPr.

From an agricultural impact point of view, it is recommended that the development be approved.

Because of the insignificant agricultural impact of the powerline, there can be no material difference between the agricultural impacts of any of the alternative powerline routes. All proposed route alternatives are considered equally acceptable in terms of agricultural impact. In terms of the substation site, the northern site is the preferred one from an agricultural impact point of view because it results in less agricultural impact, but both alternatives are acceptable because of the very small area of land that is impacted.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is only subject to the condition that the pylon locations minimize agricultural impacts by being located, wherever possible, outside of or on the edges of cropland so that they do not interfere with crop production. Pylon locations should be assessed and approved by an agricultural specialist during the final micro-siting walk-through exercise that occurs after Environmental Authorisation and prior to construction. A desktop assessment of the pylon positions using satellite imagery will be adequate for this purpose.

12 REFERENCES

Crop Estimates Consortium, 2019. *Field Crop Boundary data layer, 2019*. Pretoria. Department of Agriculture, Forestry and Fisheries.

Department of Agriculture Forestry and Fisheries (DAFF), 2018. Long-term grazing capacity map for South Africa developed in line with the provisions of Regulation 10 of the Conservation of Agricultural Resources Act, Act no 43 of 1983 (CARA), available on Cape Farm Mapper. Available at: <https://gis.elsenburg.com/apps/cfm/>

Department of Agriculture, Forestry and Fisheries, 2017. National land capability evaluation raster data layer, 2017. Pretoria.

Schulze, R.E. 2009. SA Atlas of Climatology and Agrohydrology, available on Cape Farm Mapper. Available at: <https://gis.elsenburg.com/apps/cfm/>

APPENDIX 1: SPECIALIST CURRICULUM VITAE

Johann Lanz Curriculum Vitae

Education

M.Sc. (Environmental Geochemistry)	University of Cape Town	1996 - 1997
B.Sc. Agriculture (Soil Science, Chemistry)	University of Stellenbosch	1992 - 1995
BA (English, Environmental & Geographical Science)	University of Cape Town	1989 - 1991
Matric Exemption	Wynberg Boy's High School	1983

Professional work experience

I have been registered as a Professional Natural Scientist (Pri.Sci.Nat.) in the field of soil science since 2012 (registration number 400268/12) and am a member of the Soil Science Society of South Africa.

Soil & Agricultural Consulting Self employed 2002 - present

Within the past 5 years of running my soil and agricultural consulting business, I have completed more than 170 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, electrical grid infrastructure, urban, and agricultural developments. I was the appointed agricultural specialist for the nation-wide SEAs for wind and solar PV developments, electrical grid infrastructure, and gas pipelines. My regular clients include: Zutari; CSIR; SiVEST; SLR; WSP; Arcus; SRK; Environamics; Royal Haskoning DHV; ABO; Enertrag; WKN-Windcurrent; JG Afrika; Mainstream; Redcap; G7; Mulilo; and Tiptrans. Recent agricultural clients for soil resource evaluations and mapping include Cederberg Wines; Western Cape Department of Agriculture; Vogelfontein Citrus; De Grendel Estate; Zewenwacht Wine Estate; and Goedgedacht Olives.

In 2018 I completed a ground-breaking case study that measured the agricultural impact of existing wind farms in the Eastern Cape.

Soil Science Consultant Agricultural Consultors International (Tinie du Preez) 1998 - 2001

Responsible for providing all aspects of a soil science technical consulting service directly to clients in the wine, fruit and environmental industries all over South Africa, and in Chile, South America.

Contracting Soil Scientist De Beers Namaqualand Mines July 1997 - Jan 1998

Completed a contract to advise soil rehabilitation and re-vegetation of mined areas.

Publications

- Lanz, J. 2012. Soil health: sustaining Stellenbosch's roots. In: M Swilling, B Sebitosi & R Loots (eds). *Sustainable Stellenbosch: opening dialogues*. Stellenbosch: SunMedia.
- Lanz, J. 2010. Soil health indicators: physical and chemical. *South African Fruit Journal*, April / May 2010 issue.
- Lanz, J. 2009. Soil health constraints. *South African Fruit Journal*, August / September 2009 issue.
- Lanz, J. 2009. Soil carbon research. *AgriProbe*, Department of Agriculture.
- Lanz, J. 2005. Special Report: Soils and wine quality. *Wineland Magazine*.

I am a reviewing scientist for the *South African Journal of Plant and Soil*.



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPENDIX 2: DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

(For official use only)

File Reference Number:

NEAS Reference Number:

Date Received:

DEA/EIA/

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

PROPOSED CAMDEN I WIND ENERGY FACILITY GRID CONNECTION NEAR ERMELO IN MPUMALANGA PROVINCE

Kindly note the following:

- This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
- This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at <https://www.environment.gov.za/documents/forms>.
- A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
- All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
- All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Private Bag X447, Pretoria, 0001

Physical address: Department of Environmental Affairs, Attention: Chief Director: Integrated Environmental Authorisations, Environment House, 473 Steve Biko Road, Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:

Email: EIAAdmin@environment.gov.za

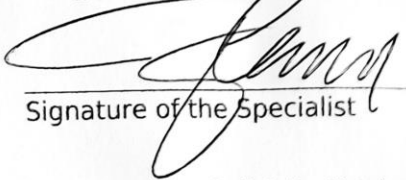
1. SPECIALIST INFORMATION

Specialist Company Name:	Johann Lanz – Soil Scientist		
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition
			100%
Specialist name:	Johann Lanz		
Specialist Qualifications:	M.Sc. (Environmental Geochemistry)		
Professional affiliation/registration:	Registered Professional Natural Scientist (Pr.Sci.Nat.) Reg. no. 400268/12 Member of the Soil Science Society of South Africa		
Physical address:	1a Wolfe Street, Wynberg, Cape Town, 7800		
Postal address:	1a Wolfe Street, Wynberg, Cape Town, 7800		
Postal code:	7800	Cell:	082 927 9018
Telephone:	082 927 9018	Fax:	Who still uses a fax? I don't
E-mail:	johann@johannlanz.co.za		

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz**, declare that -

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.



Signature of the Specialist

Johann Lanz - Soil Scientist (sole proprietor)

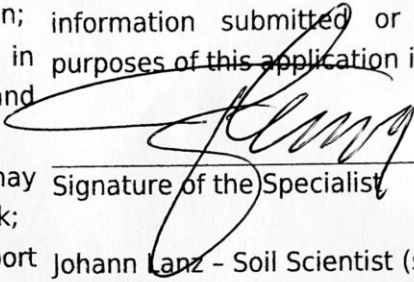
Name of Company:

Date 15/11/2022

Details of Specialist, Declaration and Undertaking Under Oath

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

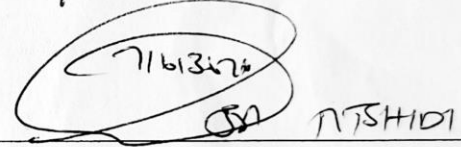


Signature of the Specialist

Johann Lanz - Soil Scientist (sole proprietor)

Name of Company

Date 15/11/2022



Signature of the Commissioner of Oaths

Date 2022-11-15

