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SITE SENSITIVITY VERIFICATION AND AGRICULTURAL COMPLIANCE STATEMENT FOR PROPOSED CONSTRUCTION AND OPERATION OF THE BATTERY ENERGY STORAGE SYSTEM (BESS) AND ASSOCIATED INFRASTRUCTURE FOR THE AUTHORISED DWARSRUG WIND ENERGY FACILITY, LOCATED NEAR LOERIESFONTEIN IN THE HANTAM LOCAL MUNICIPALITY, NAMAKWA DISTRICT IN THE NORTHERN CAPE PROVINCE OF SOUTH AFRICA.

Report by
Johann Lanz

2 November 2020

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EXECUTIVE SUMMARY

The key findings of this study are:

- The aridity of the area is a significant agricultural constraint that seriously limits the level of agricultural production (including grazing) which is possible across the site.
- Shallow soils on underlying rock or carbonate hardpan are a further agricultural limitation.
- As a result of these limitations, the study area is unsuitable for cultivation and agricultural land use is limited to grazing.
- Two potential negative agricultural impacts were identified, loss of agricultural land use and land degradation, but both are of low significance.
- The recommended mitigation measures are implementation of an effective system of storm water run-off control; maintenance of vegetation cover; and stripping, stockpiling and re-spreading of topsoil.
- The conclusion of this assessment is that the proposed development will not have an unacceptable negative impact on the agricultural production capability of the site. The proposed development is therefore acceptable. This is substantiated by the facts that the land is of limited agricultural potential, that the actual amount of agricultural land loss is small, and that the proposed development poses a low risk in terms of causing soil degradation.
- From an agricultural impact point of view, it is recommended that the proposed development be approved.

1 INTRODUCTION

Environmental authorisation is being sought for the proposed construction and operation of Battery Energy Storage System (BESS) and associated infrastructure for the authorised Dwarsrug WEF (14/12/16/3/3/2/690/AM4), located near Loeriesfontein in the Hantam Local Municipality, Namakwa District in the Northern Cape Province of South Africa (see Figure 1). In terms of the National Environmental Management Act (NEMA), an application for environmental authorisation requires an agricultural assessment, in this case an Agricultural Compliance Statement (see terms of reference, below).

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

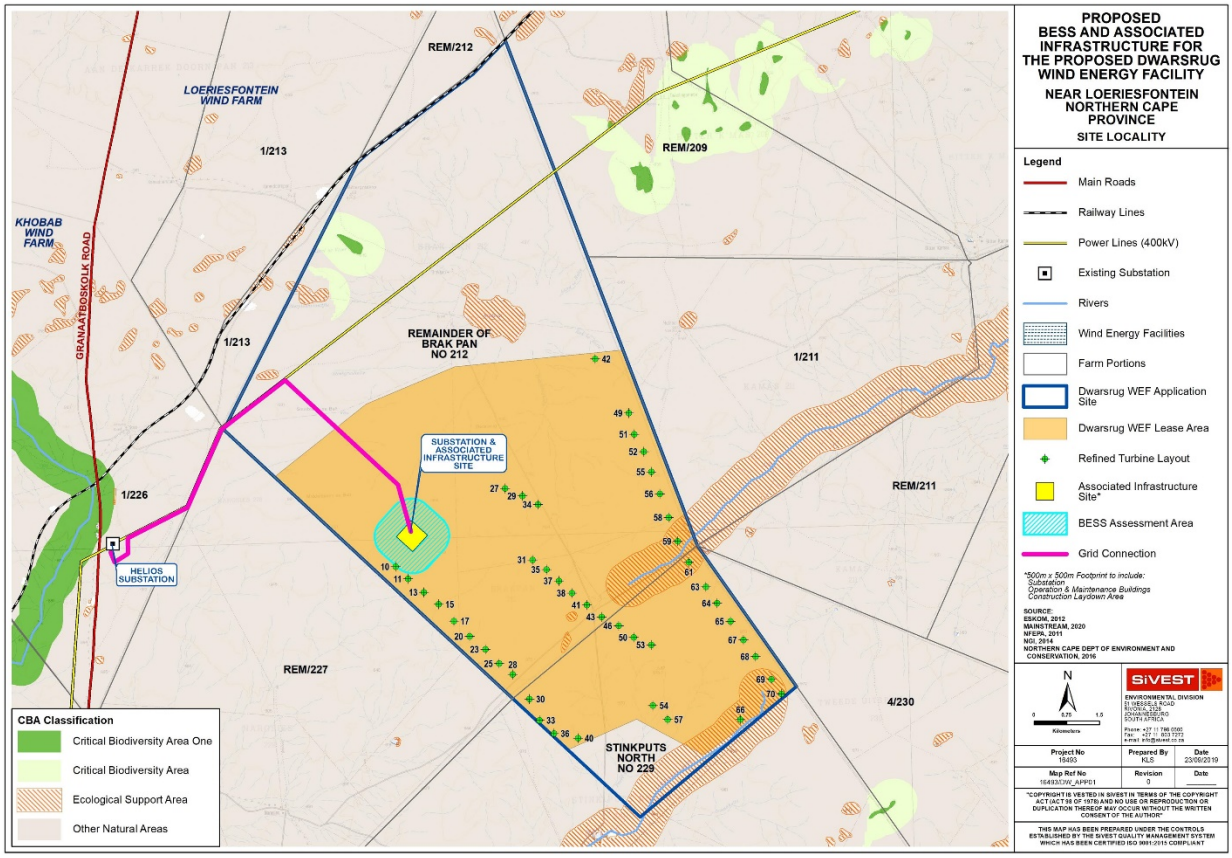

Figure 1. Locality map of the study area.

2 PROJECT DESCRIPTION

The Dwarsrug WEF BESS will be located adjacent to the approved Dwarsrug WEF substation. It will be contained within shipping containers placed on a raised concrete plinth. The need for a BESS stems from the fact that electricity is only produced by the Renewable Energy Facility while the wind is blowing. The peak demand may not necessarily occur during that time. Therefore, the storage of electricity and supply thereof during peak-demand will mean that the facility is more efficient, reliable and electricity supply more constant. The BESS capacity will up to 200 MWh, and its footprint will be up to 2 hectares.

For agricultural impacts, the exact nature of the different infrastructure within a development has very little bearing on the significance of impacts. What is of most relevance is simply the occupation of the land and whether it is being occupied by a substation, a wind turbine or a BESS makes no difference. What is of most relevance and addressed in this assessment, therefore, is simply the total footprint of the facility that excludes agricultural land use or impacts agricultural land.

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 site is on land that is classified by the national web-based environmental screening tool as less than high sensitivity for impacts on agricultural resources. The level of agricultural assessment required in terms of the protocol (and in terms of NEMA) is therefore an Agricultural Compliance Statement. The protocol also requires that a Site Sensitivity Verification be done.

The protocol states that an Agricultural Compliance Statement must be prepared by a competent soil scientist/agricultural specialist registered with the South African Council for Natural Scientific Professions (SACNASP).

The compliance statement must:
(The section of this report that fulfils each requirement is given in brackets after it)

1. be applicable to the preferred site and proposed development footprint;
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 9.8).

It must contain, as a minimum, the following information:

1. contact details and relevant experience as well as the SACNASP registration number of the soil scientist or agricultural specialist preparing the statement including a curriculum vita (CV) (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 9.6);
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 9.8);
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 9.7);
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

4.1 Methodology for assessing soils and agricultural potential

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.

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 the national web-based environmental screening tool.
- Rainfall and evaporation data was sourced from the SA Atlas of Climatology and Agrohydrology (2009, R.E. Schulze) available on Cape Farm Mapper.
- 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

The study makes the assumption that water for irrigation is not available in the study area. This is based on the assumption that a long history of farming experience in an area will result in the exploitation of viable water sources if they exist, and none have been exploited in the study area.

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

6 APPLICABLE LEGISLATION AND PERMIT REQUIREMENTS

The Subdivision of Agricultural Land Act (Act 70 of 1970) (SALA) requires that any long term lease associated with the renewable energy facility be approved by the Department of Agriculture, Land Reform and Rural Development (DALRRD). The SALA consent is separate from the application for Environmental Authorisation, and needs to be applied for and obtained separately.

Rehabilitation after disturbance to agricultural land is managed by the Conservation of Agricultural Resources Act (Act 43 of 1983) (CARA). No application is required in terms of CARA. The process required for Environmental Authorisation covers the required aspects of this.

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, in terms of environmental impact, is a direct function of the capability of the land for agricultural production. This is because a negative impact, or exclusion of agriculture, on land of higher agricultural capability is more detrimental to agriculture than the same impact on land of low agricultural capability.

The screening tool classifies agricultural sensitivity according to only two criteria – land capability and whether the land is cultivated or not. All cultivated land is classified as high sensitivity (or very high sensitivity). This is because there is a scarcity of arable production land in South Africa, in terms of how much is required for food security.

Uncultivated land is classified by the screening tool in terms of the land capability. 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. The higher land capability classes are suitable as arable land for the production of cultivated crops, while the lower suitability classes are only suitable as non-arable, grazing land, or at the lowest extreme, not even suitable for grazing. In 2017 DAFF released updated and refined land capability mapping across the whole of South Africa. This has greatly improved the accuracy of the land capability rating for any particular piece of land anywhere in the country. The new land capability mapping divides land capability into 15 different categories with 1 being the lowest and 15 being the highest. This land capability data is used by the screening tool.

The proposed site is identified by the screening tool as being of low and medium sensitivity for agricultural resources. A map of the site overlaid on the screening tool sensitivity is given in Figure 2, below.

The less than high agricultural capability of the site is predominantly due to the arid climate, which imposes a serious limitation on all agricultural production.

The differences in land capability across the project area are not very significant and are more a function of how the land capability data is generated than actual meaningful differences in agricultural potential on the ground.

The agricultural sensitivity, as identified by the screening tool, is confirmed by this assessment. The motivation for confirming the sensitivity is predominantly that the climate data (low rainfall of approximately 156 mm per annum and high evaporation of approximately 1,582 mm per annum) proves the area to be arid, and therefore of limited land capability. In addition, the land type data

shows the dominant soils to be shallow soils on underlying rock or hard-pan carbonate. The land of the study area, therefore, without doubt, corresponds to the definitions of the different screening tool sensitivity categories in terms of its land capability and cultivation status.

The protocol requirement of doing a site sensitivity verification for agriculture, particularly where climate is the predominant agricultural limitation, is nonsensical because there is only one way in which a sensitivity category different from that of the screening tool could possibly be arrived at. The only way in which sensitivity in the field could differ from the screening tool, and therefore need verification, is if new cultivated lands had recently been established on the site. In an area where the soils, climate and water availability are known to be completely unsuitable for cultivation, this is an impossibility.

However, in order to comply with this requirement, a site visit was conducted by the EAP, as permitted in the protocol, in which it was confirmed that there are no new cultivated lands anywhere within the study area.

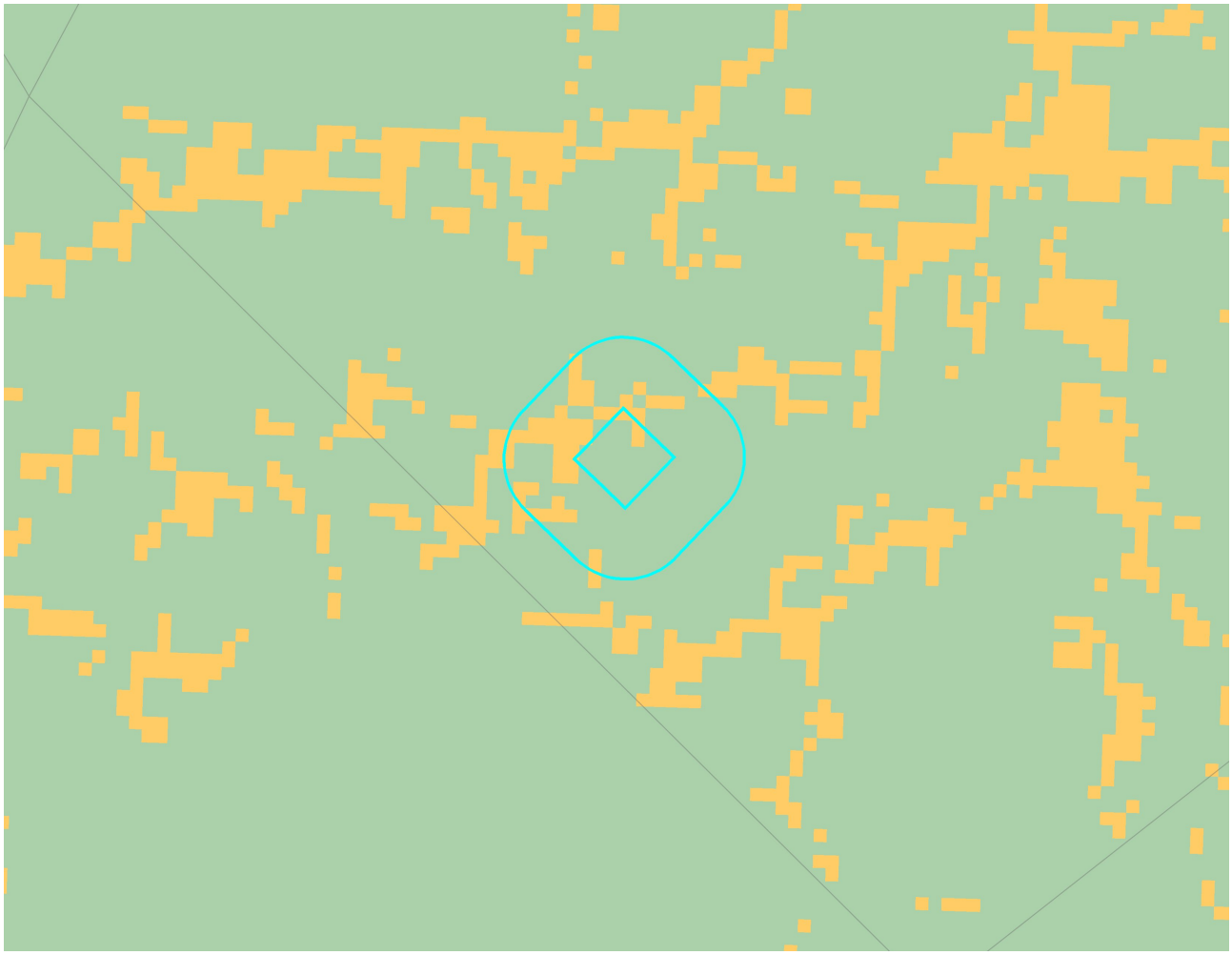

Figure 2. The study area (blue outline) overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium).

8 AGRICULTURAL LAND USE

The farm is located in a sheep farming agricultural region. The site has never been cultivated and only ever been used for grazing.

9 ASSESSMENT OF AGRICULTURAL IMPACT

9.1 General

The focus and defining question of an agricultural impact assessment is to determine to what extent a proposed development will compromise (negative impacts) or enhance (positive impacts) current and/or potential future agricultural production. The significance of an impact is therefore a direct function of the degree to which that impact will affect current or potential future agricultural production. If there will be no impact on production, then there is no agricultural impact. Impacts that degrade the agricultural resource base, pose a threat to production and therefore are within the scope of an agricultural impact assessment. Lifestyle impacts on the resident farming community, for example visual impacts, do not necessarily impact agricultural production and, if they do not, are not relevant to and within the scope of an agricultural impact assessment.

For agricultural impacts, the exact nature of the different infrastructure within a development has very little bearing on the significance of impacts. What is of most relevance is simply the occupation of the land, and whether it is being occupied by a turbine or a substation makes no difference. What is of most relevance therefore is simply the total footprint of the facility.

The components of the project that can impact on agriculture are:

1. Occupation of the land by the total, direct, physical footprint of the proposed project including all its infrastructure.
2. Construction activities that may disturb the soil profile and vegetation, for example for levelling, excavations, road access etc.

9.2 Impact identification and description

Two potential negative agricultural impacts have been identified, that are direct impacts:

1. **Loss of agricultural land use** - Agricultural land directly occupied by the development infrastructure will become unavailable for agricultural use. This impact is relevant only in the construction phase. No further loss of agricultural land use occurs in subsequent phases.

2. **Soil degradation** - Soil can be degraded by impacts in three different ways: erosion; topsoil loss; and contamination. Erosion can occur as a result of the alteration of the land surface run-off characteristics, which can be caused by construction related land surface disturbance, vegetation removal, and the establishment of hard surface areas including roads. Loss of topsoil can result from poor topsoil management during construction related excavations. Hydrocarbon spillages from construction activities can contaminate soil. Soil degradation will reduce the ability of the soil to support vegetation growth. This impact is relevant only during the construction and decommissioning phases.

9.3 Cumulative impacts

The cumulative impact of a development is the impact that development will have when its impact is added to the incremental impacts of other past, present or reasonably foreseeable future activities that will affect the same environment. It is important to note that the cumulative impact assessment for a particular project, like what is being done here, is not the same as an assessment of the impact of all surrounding projects. The cumulative assessment for this project is an assessment only of the impacts associated with this project, but seen in the context of all surrounding impacts. It is concerned with this project's contribution to the overall impact, within the context of the overall impact. But it is not simply the overall impact itself.

The most important concept related to a cumulative impact is that of an acceptable level of change to an environment. A cumulative impact only becomes relevant when the impact of the proposed development will lead directly to the sum of impacts of all developments causing an acceptable level of change to be exceeded in the surrounding area. If the impact of the development being assessed does not cause that level to be exceeded, then the cumulative impact associated with that development is not significant.

The potential cumulative agricultural impact of importance is a regional loss (including by degradation) of agricultural land, with a consequent decrease in agricultural production. The defining question for assessing the cumulative agricultural impact is this:

> What level of loss of agricultural land use and associated loss of agricultural production 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?

Because of the low impact of the proposed development and the low agricultural potential of the area, the cumulative impact is highly likely to be well within an acceptable limit in terms of loss of low potential agricultural land, of which there is no scarcity in the country. This is particularly so when considered within the context of the following point:

In order for South Africa to achieve its renewable energy generation goals, agriculturally zoned land will need to be used for renewable energy generation. It is far more preferable to incur a cumulative loss of agricultural land in a region such as the one being assessed, which has no cultivation potential, and low grazing capacity, than to lose agricultural land that has a higher potential, and that is much scarcer, to renewable energy development elsewhere in the country. The limits of acceptable agricultural land loss are far higher in this region than in regions with higher agricultural potential.

Due to all of the considerations discussed above, the cumulative impact of loss of agricultural land use will not have an unacceptable negative impact on the agricultural production capability of the area. The proposed development is therefore acceptable in terms of cumulative impact, and it is therefore recommended that it is approved.

9.4 Comparative assessment of alternatives

There will be absolutely no material difference between the agricultural impacts of any of the proposed technology alternatives. All alternatives are considered acceptable.

9.5 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 is no agricultural impact of the no-go option. Therefore, the extent to which the development and the no-go alternative will impact agricultural production are more or less equal (because of the low impact of the development), which results in there being, from an agricultural impact perspective only, no preferred alternative between the development and the no-go.

The no-go option is a feasible option. However, it would prevent the proposed development from contributing to the environmental, social and economic benefits associated with the development of renewable energy.

9.6 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. However, the agricultural uniformity and low agricultural potential of the environment, means that the exact positions of all infrastructure will make no material difference to agricultural impacts. It is therefore unnecessary to check whether siting of infrastructure, and any layout of infrastructure within the assessed area is acceptable in terms of agricultural impact.

9.7 Confirmation of linear activity impact

Confirmation of the linear activity impact is not applicable in this case.

9.8 Impact assessment and statement

An Agricultural Compliance Statement is not required to formally rate agricultural impacts. It is only required to indicate whether or not the proposed development will have an unacceptable impact on the agricultural production capability of the site. It must provide a substantiated statement on the acceptability, or not, of the proposed development and a recommendation on the approval, or not of the proposed development.

As noted above, the significance of an agricultural impact is a direct function of the degree to which that impact will affect current or potential future agricultural production, and it is on this basis that impacts have been assessed in this report.

The conclusion of this assessment is that the proposed development will not have an unacceptable negative impact on the agricultural production capability of the site. The proposed development is therefore acceptable. This is substantiated by the following points:

- the fact that the proposed site is on land of limited agricultural potential that is only viable for grazing.
- The agricultural footprint of the proposed project is very small in relation to the available grazing land on and surrounding the site.
- The proposed development poses a low risk in terms of causing soil degradation, which can be adequately and fairly easily managed by mitigation management actions. In addition, the degradation risk is only to land of low agricultural value, and the significance of the impact is therefore low.

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

10 ENVIRONMENTAL MANAGEMENT PROGRAMME INPUTS

Table 1: Management plan for the planning and design phase

Impact	**Mitigation / management objectives and outcomes**	**Mitigation / management actions**	**Monitoring**		
			Methodology	**Frequency**	**Responsibility**
Aspect: Protection of soil resources					
Erosion	That disturbance and existence of hard surfaces causes no erosion on or downstream of the site.	Design an effective system of storm water run-off control, where it is required - that is at any points where run-off water might accumulate. The system must effectively collect and safely disseminate any run-off water from all accumulation points and it must prevent any potential down slope erosion.	Ensure that the storm water run-off control is included in the engineering design.	Once-off during the design phase.	Holder of the EA

Table 2: Management plan for the construction phase

Impact	**Mitigation / management objectives and outcomes**	**Mitigation / management actions**	**Monitoring**		
			Methodology	**Frequency**	**Responsibility**
Aspect: Protection of soil resources					

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
Erosion	That disturbance and existence of hard surfaces causes no erosion on or downstream of the site.	Implement an effective system of storm water run-off control, where it is required - that is at any points where run-off water might accumulate. The system must effectively collect and safely disseminate any run-off water from all accumulation points and it must prevent any potential down slope erosion.	Undertake a periodic site inspection to verify and inspect the effectiveness and integrity of the storm water run-off control system and to specifically record the occurrence of any erosion on site or downstream. Corrective action must be implemented to the run-off control system in the event of any erosion occurring.	Every 2 months during the construction phase	Environmental Control Officer (ECO)
Erosion	That vegetation clearing does not pose a high erosion risk.	Maintain where possible all vegetation cover and facilitate re-vegetation of denuded areas throughout the site, to stabilize disturbed soil against erosion.	Undertake a periodic site inspection to record the occurrence of and re-vegetation progress of all areas that require re-vegetation.	Every 4 months during the construction phase	Environmental Control Officer (ECO)
Topsoil loss	That topsoil loss is minimised	If an activity will mechanically disturb the soil	Record GPS positions of all occurrences of	As required, whenever areas are disturbed.	Environmental Control Officer (ECO)

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
		below surface in any way, then any available topsoil should first be stripped from the entire surface to be disturbed and stockpiled for re-spreading during rehabilitation. During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface.	below-surface soil disturbance (e.g. excavations). Record the date of topsoil stripping and replacement. Check that topsoil covers the entire disturbed area.		

Table 3: Management plan for the operational phase

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
Aspect: Protection of soil resources					
Erosion	That existence of hard surfaces causes no erosion on or downstream of the site.	Maintain the storm water run-off control system. Monitor erosion and remedy the storm water control system in the event of	Undertake a periodic site inspection to verify and inspect the effectiveness and integrity of the storm water run-off control	Bi-annually	Facility Environmental Manager

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
		any erosion occurring.	system and to specifically record the occurrence of any erosion on site or downstream. Corrective action must be implemented to the run-off control system in the event of any erosion occurring.		
Erosion	That denuded areas are re-vegetated to stabilise soil against erosion	Facilitate re-vegetation of denuded areas throughout the site	Undertake a periodic site inspection to record the progress of all areas that require re-vegetation.	Bi-annually	Facility Environmental Manager

Table 4: Management plan for the decommissioning phase

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
Aspect: Protection of soil resources					
Erosion	That disturbance and existence of hard surfaces causes no	Implement an effective system of storm water run-off control, where it is	Undertake a periodic site inspection to verify and inspect the	Every 2 months during the decommissioning phase, and then every 6	Environmental Control Officer (ECO)

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
	erosion on or downstream of the site.	required - that is at any points where run-off water might accumulate. The system must effectively collect and safely disseminate any run-off water from all accumulation points and it must prevent any potential down slope erosion.	effectiveness and integrity of the storm water run-off control system and to specifically record the occurrence of any erosion on site or downstream. Corrective action must be implemented to the run-off control system in the event of any erosion occurring.	months after completion of decommissioning, until final sign-off is achieved.	
Erosion	That vegetation clearing does not pose a high erosion risk.	Maintain where possible all vegetation cover and facilitate re-vegetation of denuded areas throughout the site, to stabilize disturbed soil against erosion.	Undertake a periodic site inspection to record the occurrence of and re-vegetation progress of all areas that require re-vegetation.	Every 4 months during the decommissioning phase, and then every 6 months after completion of decommissioning, until final sign-off is achieved.	Environmental Control Officer (ECO)
Topsoil loss	That topsoil loss is minimised	If an activity will mechanically disturb the soil below surface in any way, then any available topsoil should first be stripped	Record GPS positions of all occurrences of below-surface soil disturbance (e.g. excavations). Record the date	As required, whenever areas are disturbed.	Environmental Control Officer (ECO)

Impact	Mitigation / management objectives and outcomes	Mitigation / management actions	Monitoring		
			Methodology	**Frequency**	**Responsibility**
		from the entire surface to be disturbed and stockpiled for re-spreading during rehabilitation. During rehabilitation, the stockpiled topsoil must be evenly spread over the entire disturbed surface.	of topsoil stripping and replacement. Check that topsoil covers the entire disturbed area.		

11 CONCLUSIONS

The site has low agricultural potential because of, predominantly, aridity constraints, but also due to soil constraints. It is unsuitable for cultivation, and agricultural land use is limited to grazing.

Two potential negative agricultural impacts were identified, loss of agricultural land use and land degradation, but neither is of high significance.

The recommended mitigation measures are implementation of an effective system of storm water run-off control; maintenance of vegetation cover; and stripping, stockpiling and re-spreading of topsoil.

The conclusion of this assessment is that the proposed development will not have an unacceptable negative impact on the agricultural production capability of the site. The proposed development is therefore acceptable. This is substantiated by the facts that the land is of limited agricultural potential, that the actual amount of agricultural land loss is small, and that the proposed development poses a low risk in terms of causing soil degradation.

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

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions.

12 REFERENCES

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DEA, 2015. Strategic Environmental Assessment for wind and solar photovoltaic development in South Africa. CSIR Report Number CSIR: CSIR/CAS/EMS/ER/2015/001/B. Stellenbosch.

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**

In the past 5 years of running my soil and agricultural consulting business, I have completed more than 120 agricultural assessments (EIAs, SEAs, EMPRs) in all 9 provinces for renewable energy, mining, urban, and agricultural developments. My regular clients include: Aurecon; CSIR; SiVEST; Arcus; SRK; Environamics; Royal Haskoning DHV; Jeffares & Green; JG Afrika; Juwi; 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.
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- 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:	DEA/EIA/
Date Received:	

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 CONSTRUCTION AND OPERATION OF THE BATTERY ENERGY STORAGE SYSTEM (BESS) AND ASSOCIATED INFRASTRUCTURE AND INCLUSION OF ADDITIONAL LISTED ACTIVITIES FOR THE AUTHORISED DWARSRUG WIND ENERGY FACILITY, LOCATED NEAR LOERIESFONTEIN IN THE HANTAM LOCAL MUNICIPALITY, NAMAKWA DISTRICT IN THE NORTHERN CAPE 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 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:

08/10/2020

Date

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

08/10/2020

Date

7214527-7 CONSTABLE
A.F. MASETI-MZINGELWA

Signature of the Commissioner of Oaths

2020/10/08

Date

SUID-AFRIKAANSE POLISIEDIENS
STATION COMMANDER
08 OCT 2020
WYNBERG SP
SOUTH AFRICAN POLICE SERVICE