Johann Lanz
Soil Scientist (Pr.Sci.Nat.)
Reg. no. 400268/12

Cell: 082 927 9018
e-mail: johann@johannlanz.co.za

1A Wolfe Street
Wynberg
7800
Cape Town
South Africa

AGRICULTURAL COMPLIANCE STATEMENT FOR PROPOSED GROOTBRAK WWTW PV SOLAR PLANT AND BATTERY STORAGE SYSTEMS ON PORTION 23 OF THE FARM WOLVEDANS 129, GROOTBRAK RIVIER, MOSSEL BAY WESTERN CAPE

Report by
Johann Lanz

15 April 2024

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EXECUTIVE SUMMARY

South Africa urgently needs electricity generation, and renewable energy offers good potential for that, but requires land. Agriculturally zoned land will inevitably need to be used for the renewable energy generation that the country requires. However, to ensure food security, energy facilities should be located where they will not exclude viable, future crop production from land.

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of potential cropland and therefore minimal loss of future agricultural production potential.

This assessment confirms the medium sensitivity rating of the site by the screening tool because of the site's assessed agricultural production potential and current agricultural land use.

The dryland cropping potential of the site is limited by climate (limited moisture), terrain (steep slopes) and soil (shallow depth) constraints. Furthermore, factors other than climate, terrain, and soil capability also constrain the potential of the property to practically deliver agricultural produce and therefore influence its agricultural production potential. These factors include the lack of any existing cropping infrastructure or inputs, and the small size of the property (14.5 ha) prevents economies of scale. Due to all the above constraints, the site is unlikely to ever be viably utilised for agricultural production and its potential is therefore assessed here as low.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of the development. In this case, the proposed development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The use of this land for non-agricultural purposes will cause minimal loss of agricultural production potential in terms of national food security.

Due to the fact that the development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

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

1 INTRODUCTION

Environmental and change of land use authorisation is being sought for the proposed Grootbrak WWTW PV Solar plant and battery storage system on portion 234 of farm Wolvedans 129, Grootbrak Rivier, Mossel Bay, Western Cape (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. In this case, based on the medium agricultural sensitivity of the site (see Section 7), the level of agricultural assessment required by the protocol is an Agricultural Compliance Statement.

Figure 1. *Locality map of the development northeast of Hartenbos.*

The purpose of an agricultural assessment is to answer the question:

> Will the proposed development cause a significant reduction in agricultural production potential, and most importantly, will it result in a loss of arable land?

As is shown in Section 9, this proposed development will not result in a loss of viable arable land and therefore poses minimal threat to agricultural production potential.

2 PROJECT DESCRIPTION

The proposed development footprint will consist of the standard infrastructure of a PV energy facility including PV arrays; inverters; cabling; battery energy storage system (BESS); auxiliary buildings; access and internal roads; on-site substation; grid connection; temporary construction laydown areas; and perimeter fencing. The facility will have a total generating capacity <20 MW.

The exact nature and layout of the different infrastructure within the boundary fence of a solar energy facility has absolutely no bearing on the significance of agricultural impacts. It is therefore not necessary to detail this design and layout of the facility any further in this assessment. All that is of relevance is simply the total footprint of the facility that excludes agricultural land use. For a solar facility, this is the area within the facility fence. Whether that footprint comprises, for example, a solar array, a road or a BESS is irrelevant to agricultural impact. The total relevant footprint of the facility, as shown in Figures 2 and 3, is 4.7 hectares.

3 TERMS OF REFERENCE

The terms of reference for this study are 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 terms of reference for an Agricultural Compliance Statement, as stipulated in the agricultural 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 3)**.
2. The compliance statement must:
    1. be applicable to the preferred site and proposed development footprint **(Figures 2 and 3)**;
    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 12)**.
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 11.1)**;
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 12)**;
6. any conditions to which this statement is subjected **(Section 12)**;
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 11.2);**
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

The assessment was based on a verification of current agricultural land use on the site by way of a site visit conducted on 29 February 2024. It was informed by existing climate, soil, and agricultural potential data for the site (see references). The level of agricultural assessment is considered entirely adequate for an understanding of on-site agricultural production potential for the purposes of this assessment.

An assessment of soils and long-term agricultural potential is in no way affected by the season in which the assessment is made, and therefore the date on which this assessment was done has no bearing on its results. The level of agricultural assessment is considered entirely adequate for an understanding of on-site agricultural production potential for the purposes of this assessment.

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

This section identifies all applicable legislation and permit requirements over and above what is required in terms of NEMA.

The development requires approval from the National Department of Agriculture, Land Reform and Rural Development (DALRRD) because it is on agriculturally zoned land. This approval is separate to the Environmental Authorisation. 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. 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 agricultural assessment report will serve that purpose.

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

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.

Power lines 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 power line 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 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 power line, but then hands it over to Eskom for its operation. Eskom is currently exempt from agricultural consent for power line servitudes.

7 SITE SENSITIVITY VERIFICATION

A specialist agricultural assessment is required to include a verification of the agricultural sensitivity of the development site as per the sensitivity categories used by the web-based environmental screening tool of the Department of Forestry, Fisheries and the Environment (DFFE). Agricultural sensitivity is an indication of the capability of the land for agricultural production, based only on its climate, terrain, and soil capabilities. The different categories of agricultural sensitivity indicate the priority by which land should be conserved as agricultural production land. However, the screening tool's agricultural sensitivity is often of very limited value for assessing agricultural impact. What is of importance to an agricultural assessment, rather than the site sensitivity verification, is its assessment of the cropping potential and its assessment of the impact significance, both of which are not necessarily correlated with sensitivity.

The screening tool classifies agricultural sensitivity according to two independent criteria, from two independent data sets, both of which may be indicators of the land's agricultural production potential but are limited in that the first is outdated and the second relies on fairly course data. The two criteria are:

1. whether the land is classified as cropland or not on the field crop boundary data set (Crop Estimates Consortium, 2019), and
2. its land capability rating on the land capability data set (DAFF, 2017)

All classified cropland is, by definition, either high or very high sensitivity. Land capability is defined as the combination of soil, climate, and terrain suitability factors for supporting rain-fed agricultural production. It is rated by the Department of Agriculture's updated and refined, country-wide land capability mapping (DAFF, 2017). The higher land capability values (≥8 to 15) are likely to indicate suitability as arable land for crop production, while lower values (<8) are only likely to be suitable as non-arable grazing land. The direct relationship between land capability rating and the screening tool's agricultural sensitivity is shown in Table 1.

Table 1: Relationship between land capability and agricultural sensitivity as given by the screening tool.

Land capability value	Agricultural sensitivity
1 - 5	low
6 - 8	medium
9 - 10	high
11 - 15	very high

The agricultural sensitivity of the site, as given by the screening tool, is shown in Figure 2.

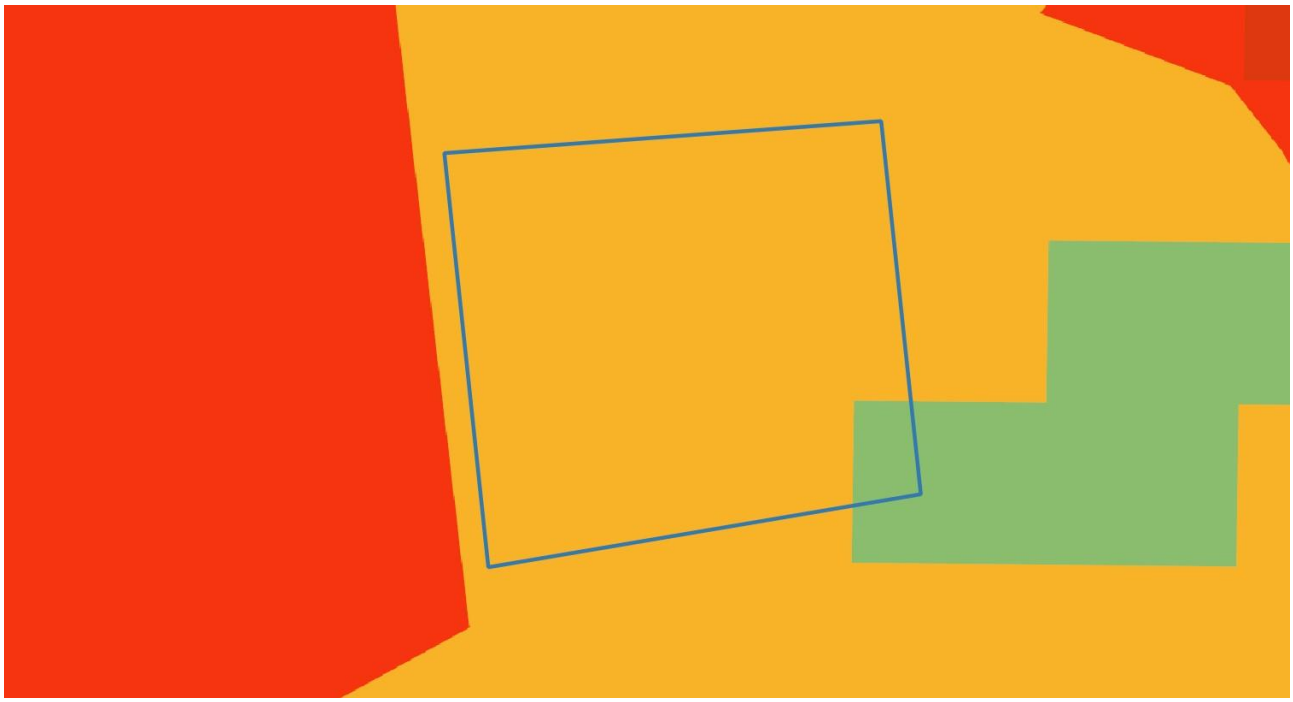

Figure 2. *The proposed development footprint (blue outline) overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high; dark red = very high). The screening tool's medium sensitivity is confirmed by this assessment.*

This verification of sensitivity addresses both components that determine it, namely cropping status and land capability. The screening tool classifies the assessed area as ranging from low to medium agricultural sensitivity. None of the land is classified as cropland and the rating of agricultural sensitivity is therefore purely a function of classified land capability as per Table 1 above. The classified land capability of the proposed development footprint is 6. This assessment verifies that the site is not within crop boundaries and verifies the classified land capability, based on the assessment of the cropping potential of the site in this report (see following section). This assessment therefore confirms the medium sensitivity rating by the screening tool.

8 BASELINE DESCRIPTION OF THE AGRO-ECOSYSTEM

The purpose of this section is to present the baseline information that controls the agricultural production potential of the site so that an assessment of that potential can be made. Agricultural production potential, and particularly cropping potential, is one of three factors that determines the significance of an agricultural impact, together with size of footprint and duration of impact (see Section 9).

All the important parameters that control the agricultural production potential of the site are given in Table 2. The land type soil data are given in Appendix 4. A satellite image map of the proposed development footprint is given in Figure 3 and photographs of site conditions are shown in Figures 4 and 5.

The proposed development footprint falls within an area that is classified as a Protected Agricultural Area (PAA). A PAA is a demarcated area in which the climate, terrain, and soil are generally conducive for agricultural production and which, historically, has made important contributions to the production of the various crops that are grown across South Africa. Within PAAs, the protection, particularly of arable land, is considered a priority for the protection of food security in South Africa. However, PAAs are demarcated broadly, not at a fine scale, and there may therefore be much variation of agricultural production potential within a PAA. All land within these demarcated areas is not necessarily of sufficient agricultural potential to be suitable for crop production, due to finer scale terrain, soil, and other constraints. The proposed development footprint is located on land that is not viable for cropland (see Section 8.1). This land does not therefore deserve prioritised protection as agricultural production land (see Section 9.1), even though it is within a demarcated PAA.

Table 2: Parameters that control and/or describe the agricultural production potential of the site.

	Parameter	**Value**
Climate	Köppen-Geiger climate description (Beck *et al*, 2018)	Arid, steppe, cold
	Mean Annual Rainfall (mm) (Schulze, 2009)	512
	Reference Crop Evaporation Annual Total (mm) (Schulze, 2009)	843
	Climate capability classification (out of 9) (DAFF, 2017)	6 (moderate-high)
Terrain	Terrain type	Rolling Hills
	Terrain morphological unit	Midslope
	Slope gradients (%)	0 to 24

	Parameter	Value
	Altitude (m)	152
	Terrain capability classification (out of 9) (DAFF, 2017)	3 (low) to 5 (moderate)
Soil	Geology (DAFF, 2002)	Dc28: Mainly conglomerate, sandstone, siltstone and mudstone of the Enon Formation, Uitenhage Group. Hb62: Mainly fixed dunes, dune rock and aeolian sand.
	Land type (DAFF, 2002)	Dc28, Hb62
	Description of the soils	Very shallow to shallow, light to medium textured, imperfectly-drained, duplex soils on underlying clay
	Dominant soil forms	Valsrivier, Sterkspruit
	Soil capability classification (out of 9) (DAFF, 2017)	4 (low-moderate)
	Soil limitations	Limited soil depth and limited drainage.
Land use	Agricultural land use in the surrounding area	Planted Pastures, Pivot irrigation,
	Agricultural land use on the site	None
General	Long-term grazing capacity (ha/LSU) (DAFF, 2018)	35
	Land capability classification (out of 15) (DAFF, 2017)	6 (low-moderate)
	Within Protected Agricultural Area (DALRRD, 2020)	Yes
	Within Renewable Energy Development Zone (REDZ)	No

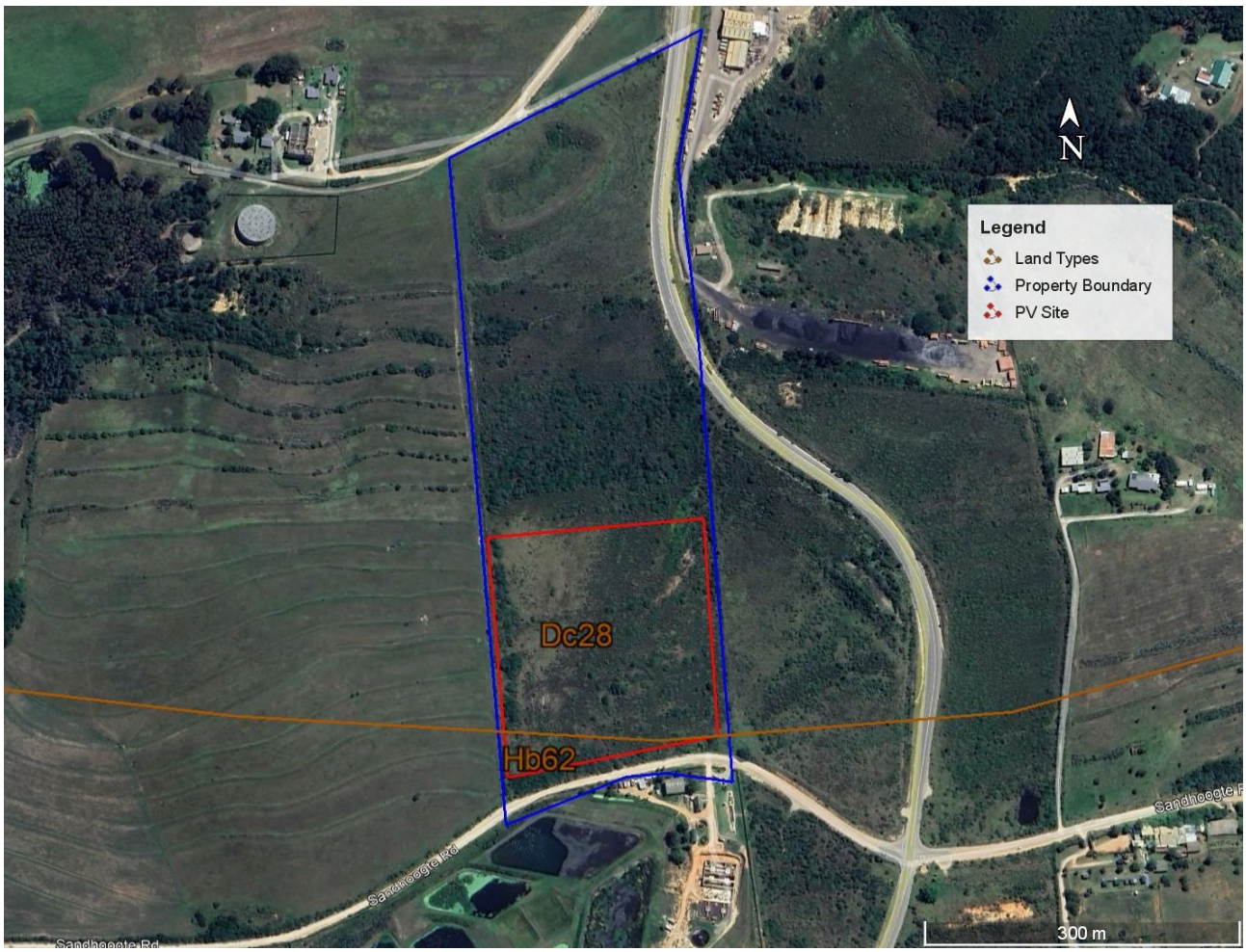

Figure 3. *Satellite image map of the proposed development footprint.*

Figure 4. *View of the proposed site from Sorgfontein road.*

Figure 5. *Typical site vegetation and conditions.*

8.1 Assessment of the agricultural production potential

This assessment of the agricultural production potential of the site is based on an integration of the different parameters in Table 2 above.

The dryland cropping potential of the site is limited by climate (limited moisture), terrain (steep slopes) and soil (shallow depth) constraints, as identified in Table 2. Furthermore, factors other than climate, terrain, and soil capability also constrain the potential of the property to practically deliver agricultural produce and therefore influence its agricultural production potential. These factors include the lack of any existing cropping infrastructure or inputs, which would therefore necessitate agricultural investment for crop production, with questionable security of return on that investment and the small size of the property (14.5 ha) prevents economies of scale. Due to all the above constraints, the site is unlikely to ever be viably utilised for agricultural production and its potential is therefore assessed here as low.

9 ASSESSMENT OF THE AGRICULTURAL IMPACT

9.1 Impact identification and assessment

It should be noted that an Agricultural Compliance Statement is not required to formally rate agricultural impacts by way of impact assessment tables.

An agricultural impact is a change to the future agricultural production potential of land. In most developments, including the one being assessed here, this is primarily caused by the exclusion of

agriculture from the footprint of the development. Soil erosion and degradation may also contribute to loss of agricultural production potential. The significance of an agricultural impact is a direct function of the following three factors:

1. the size of the footprint of land from which agriculture will be excluded (or the footprint that will have its potential decreased)
2. the baseline production potential (particularly cropping potential) of that land
3. the length of time for which agriculture will be excluded (or for which potential will be decreased).

The most significant loss of agricultural land possible, for any development anywhere in the country, is of high yielding cropland, and the least significant possible, is of low carrying capacity grazing land.

Cropping potential is highlighted in factor 2, above, because the threshold, above which it is a priority to conserve land for agricultural production, is determined by the scarcity of arable crop production land in South Africa (approximately only 13% of the country's surface area) and the relative abundance of the rest of agricultural land across the country that is only good enough to be used for grazing. If land can support viable and sustainable crop production, then it is considered to be above the threshold and is a priority for being conserved as agricultural production land. If land is unable to support viable and sustainable crop production, then it is considered to be below the threshold and of much lower priority for being conserved.

In this case, the proposed development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The use of this land for non-agricultural purposes will cause minimal loss of agricultural production potential in terms of national food security.

Due to the fact that the development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

9.2 Cumulative impact assessment

Specialist assessments for environmental authorisation are required to assess 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.

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 future agricultural production potential. The defining question for assessing the cumulative agricultural impact is this:

> What 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?

Agricultural land throughout South Africa is under inevitable pressure from various non-agricultural land uses, including urban expansion. The cumulative impact of agricultural land loss is significant. However, the agricultural priority should be to conserve future agricultural production, not simply agriculturally zoned land. As has been shown above, the site has limited current agricultural production and limited capacity for future agricultural production. Therefore, it is a site which can be used for non-agricultural purposes without a high loss of agricultural production potential. The cumulative agricultural impact of the proposed development is therefore assessed as being of low significance and therefore as acceptable. The development will not have an unacceptable negative impact on the agricultural production capability of the area, and it is therefore recommended, from a cumulative agricultural impact perspective, that the development be approved.

9.3 Assessment of alternatives

Specialist assessments for environmental authorisation are required to assess the impacts of alternatives, including the no-go alternative. As already noted, the exact nature and layout of the different infrastructure within the boundary fence of a solar energy facility has absolutely no bearing on the significance of agricultural impacts, because agriculture will be completely excluded from within the boundary, regardless of layout. Any alternative layouts within the boundary will have equal agricultural impact and are assessed as equally acceptable.

All technology alternatives, including the choice of Lithium-ion or redox flow for the BESS, will also have no bearing on the significance of agricultural impacts. All will have equal impact and are assessed as equally acceptable.

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. Even though the impacted land has insufficient agricultural production potential for cropping, and the impact of the development is low, its negative agricultural impact is marginally more significant than that of the no-go alternative, and so from an agricultural impact perspective, the no-go alternative is the preferred alternative. However, the no-go option would prevent the proposed development from contributing to the environmental, social, and economic benefits associated with the development of renewable energy in South Africa.

10 MITIGATION

10.1 Mitigation measures

The most important and effective mitigation of agricultural impacts for any development is avoidance of viable croplands. This development has already applied this mitigation by selecting a site on which there are not viable croplands. No mitigation measures are required for the protection of agricultural production potential on the site because the site is not and will not be utilised as agricultural production land.

11 ADDITIONAL ASPECTS REQUIRED IN AN AGRICULTURAL ASSESSMENT

11.1 Micro-siting

The agricultural protocol requires confirmation that all reasonable measures have been taken through micro-siting to minimize fragmentation and disturbance of agricultural activities. As already discussed above, micro-siting within the footprint will make no material difference to agricultural impacts and disturbance.

11.2 Confirmation of linear activity

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. This is not relevant in this case because the proposed development is not a linear one.

12 CONCLUSION: AGRICULTURAL COMPLIANCE STATEMENT

The overall conclusion of this assessment is that the proposed development is acceptable because it leads to no loss of potential cropland and therefore minimal loss of future agricultural production potential.

This assessment confirms the medium sensitivity rating of the site by the screening tool because of the site's assessed agricultural production potential and current agricultural land use.

The dryland cropping potential of the site is limited by climate (limited moisture), terrain (steep slopes) and soil (shallow depth) constraints. Furthermore, factors other than climate, terrain, and soil capability also constrain the potential of the property to practically deliver agricultural produce and therefore influence its agricultural production potential. These factors include the lack of any existing cropping infrastructure or inputs, and the small size of the property (14.5 ha) prevents economies of scale. Due to all the above constraints, the site is unlikely to ever be viably utilised for agricultural production and its potential is therefore assessed here as low.

An agricultural impact is a change to the future agricultural production potential of land. This is primarily caused by the exclusion of agriculture from the footprint of the development. In this case, the proposed development footprint is considered to be below the threshold for needing to be conserved as agricultural production land because of the limitations that make it unsuitable as viable cropland. The use of this land for non-agricultural purposes will cause minimal loss of agricultural production potential in terms of national food security.

Due to the fact that the development will not occupy scarce, viable cropland, the overall negative agricultural impact of the development (loss of future agricultural production potential) is assessed here as being of low significance and as acceptable.

From an agricultural impact point of view, it is recommended that the proposed 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.

13 REFERENCES

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

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002 Tel: +27 12 399 9000, Fax: +27 86 625 1042

APPENDIX 2: SPECIALIST DECLARATION FORM AUGUST 2023

Specialist Declaration form for assessments undertaken for 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)

REPORT TITLE: **PROPOSED GROOTBRAK WWTW PV SOLAR PLANT AND BATTERY STORAGE SYSTEMS ON PORTION 23 OF THE FARM WOLVEDANS 129, GROOTBRAK RIVIER, MOSSEL BAY, WESTERN CAPE**

Kindly note the following:

1. This form must always be used for assessment that are in support of applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting, where this Department is the Competent Authority.
2. This form is current as of August 2023. 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.dffe.gov.za/documents/forms.
3. An electronic copy of the signed declaration form must be appended to all Draft and Final Reports submitted to the department for consideration.
4. The specialist must be aware of and comply with '*the Procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the act, when applying for environmental authorisation - GN 320/2020)'*, where applicable.

1. SPECIALIST INFORMATION

Title of Specialist Assessment	Agricultural Assessment
Specialist Company Name	SoilZA – sole proprietor
Specialist Name	Johann Lanz
Specialist Identity Number	6607045174089
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
Telephone	Not applicable
Cell phone	+27 82 927 9018
E-mail	johann@soilza.co.za

2. DECLARATION BY THE SPECIALIST

I, **Johann Lanz** declare that –

- I act as the independent specialist in this application;
- I am aware of the procedures and requirements for the assessment and minimum criteria for reporting on identified environmental themes in terms of sections 24(5)(a) and (h) and 44 of the National Environmental Management Act (NEMA), 1998, as amended, when applying for environmental authorisation which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. “the Protocols”) and in Government Notice No. 1150 of 30 October 2020.
- 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 NEMA Act.

Signature of the Specialist

SoilZA (sole proprietor)

Name of Company:

8 March 2024

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, **Johann Lanz**, swear under oath 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

08/03/2024

Date

Signature of the Commissioner of Oaths

2024. 03. 08

Date

SUID-AFRIKAANSE POLISIEDIENS
GEMEENSKAPSDIENSSENTRUM
08 MAR 2024
COMMUNITY SERVICE CENTRE
MELKBOSSTRAND
SOUTH AFRICAN POLICE SERVICE

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COMMUNITY SERVICE CENTRE
MELKBOSSTRAND
08 MAR 2024
GEMEENSKAPSDIENSSENTRUM
SUID-AFRIKAANSE POLISIEDIENS

APPENDIX 3: SACNASP REGISTRATION CERTIFICATE

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Johan Lanz

Registration Number: 400268/12

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following field(s) of practice (Schedule 1 of the Act)

Soil Science (Professional Natural Scientist)

Effective **15 August 2012** Expires **31 March 2025**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

APPENDIX 4: SOIL DATA

Table 4: Land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Dc28	T					20,0
Dc28	Va	200 - 300	15 - 25	40 - 65	vp	14,3
Dc28	Ss	300 - 400	4 - 12	35 - 60	pr	13,0
Dc28	Va	200 - 350	15 - 20	35 - 55	vr	12,8
Dc28	Sd	400 - 700	15 - 25	30 - 50	R	11,5
Dc28	Hu	> 1200	8 - 15	10 - 30		9,5
Dc28	Va	200 - 350	15 - 20	35 - 55	vp	8,5
Dc28	Es	400 - 500	4 - 12	35 - 60	pr	5,8
Dc28	Oa	> 1200	3 - 6	3 - 12		2,3
Dc28	Du	> 1200	6 - 10			1,5
Dc28	We	400 - 500	8 - 15	15 - 35	sp	1,0
Hb62	Fw	> 1200	2 - 6			59,5
Hb62	Ms	100 - 250	2 - 6		ka	13,3
Hb62	Sp	> 1200	2 - 6	4 - 10		7,2
Hb62	Fw	> 1200	2 - 6			4,0
Hb62	Oa	> 1200	2 - 6	3 - 12		3,0
Hb62	We	200 - 400	3 - 6	3 - 10	sp	3,0
Hb62	Du	> 1200	2 - 6			3,0
Hb62	Vf	> 1200	2 - 6	4 - 10		2,7
Hb62	R					2,0
Hb62	Cv	> 1200	2 - 6	2 - 6		1,5
Hb62	Oa	> 1200	3 - 6	4 - 10		1,0