

**Site sensitivity verification
and Agricultural Compliance Statement
for a proposed cemetery
on Portions 103 & 104 of Farm Groot Valley No.451, Citrusdal**

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1 Introduction

Environmental authorisation is being sought for the above development (see locality 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 verified sensitivity of the site, the level of agricultural assessment required is an Agricultural Compliance Statement.

Johann Lanz was appointed as an independent agricultural specialist to provide 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 or not, and based on this, to make a recommendation on whether it should be approved or not.

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 the land to the extent that its production potential is reduced. However, this project poses very little threat to agricultural production potential.

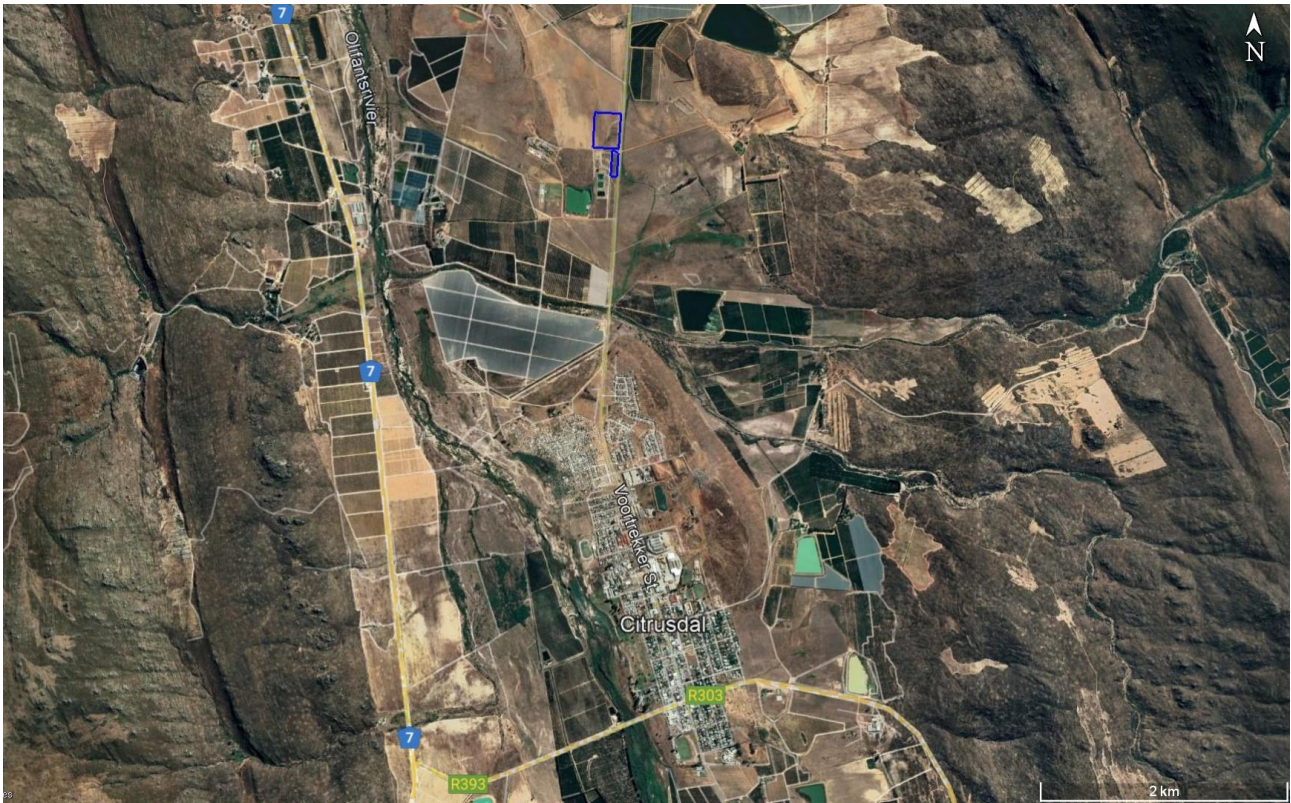


Figure 1. The locality of the proposed cemetery (blue outline) just north of the town of Citrusdal.

2 Project description

The proposed project is a cemetery. The project will cause the exclusion of potential agricultural production from the entire site. Once agriculture is excluded from the site, there can be no further on-site agricultural impact. There is also no off-site agricultural impact. The design and layout of the development within the property is therefore of no relevance to agricultural impacts and it is unnecessary to consider it any further in this assessment. All that is of relevance is the loss of the total site to potential agricultural production.

A more detailed satellite image map of the development site is shown in Figure 2.



Figure 2. *Satellite image map of the cemetery site.*

3 Site sensitivity verification

A map of the proposed development site, overlaid on the screening tool sensitivity, is given in Figure 3. The screening tool classifies agricultural sensitivity according to only two independent criteria – the land capability rating and whether the land is cropland or not.

The classification of a large part of the site as high agricultural sensitivity (red in Figure 3) is because those parts are classified as cropland in the data set used by the screening tool. However that data set is outdated. This land has not been cropped within the last twelve years according to

the historical imagery available on Google Earth. It should therefore no longer be classified as viable cropland and should not be allocated high sensitivity because of it.

The fact that previously cropped lands are no longer viable for cropping is because the suitability for cropping changes with a changing agricultural economy. Poorer soils or marginal climates that may have been cropped with economic viability in the past, are abandoned as cropland because they become too marginal for viable crop production in a more challenging agricultural economy with higher input costs. Climate change and changes in rainfall patterns have also led to poorer soils becoming more marginal.

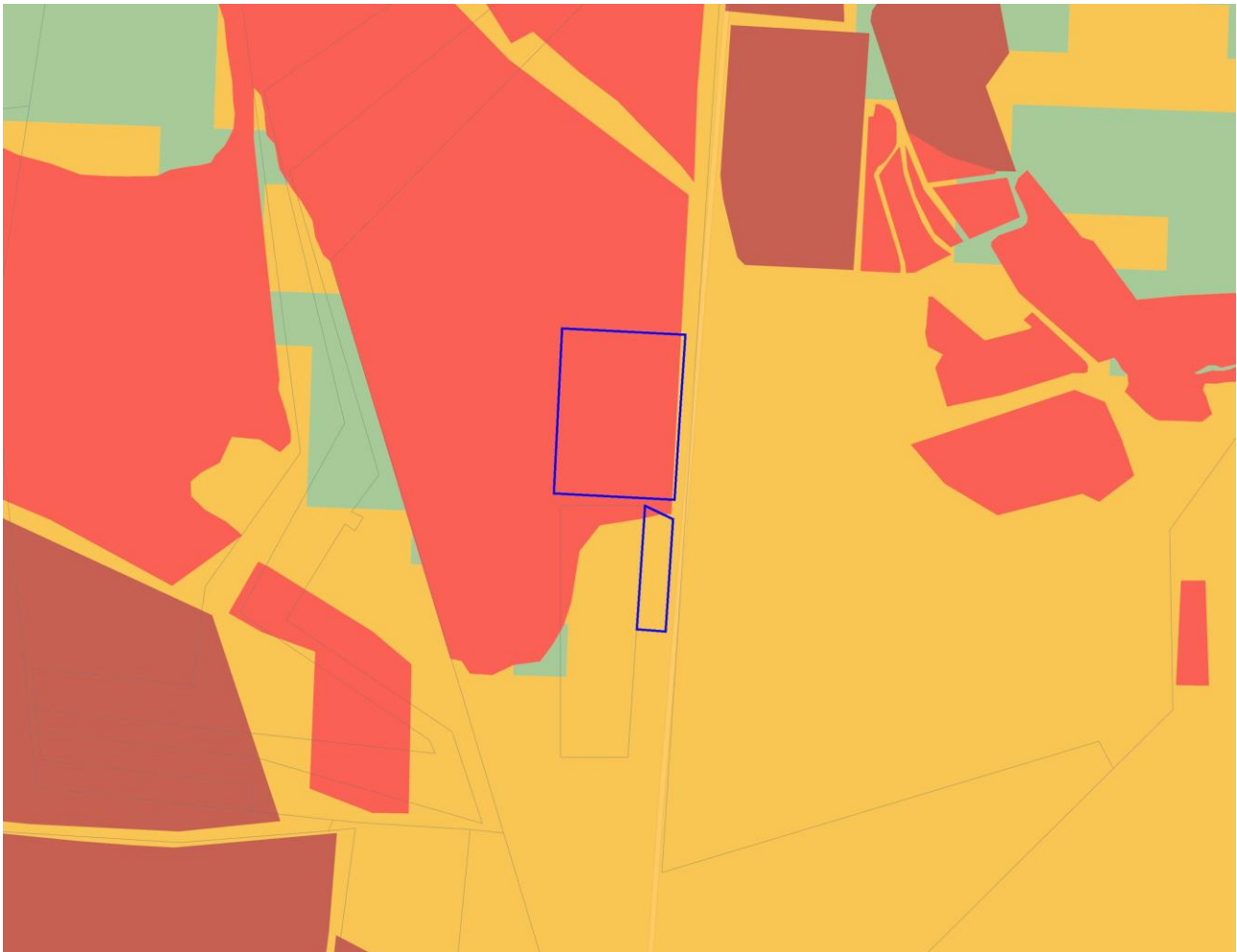


Figure 3. The proposed development site overlaid on agricultural sensitivity, as given by the screening tool (green = low; yellow = medium; red = high; dark red = very high)

The classified land capability of the site varies from 5 to 7. The small scale differences in the modelled land capability across the site are not very accurate or significant at this scale and are more a function of how the data is generated by modelling, than actual meaningful differences in agricultural potential on the ground. The value can therefore be considered to be 6, which translates to a medium agricultural sensitivity.

Agricultural sensitivity is an indication of the production potential of land. Classified agricultural

sensitivity only takes biophysical factors (soil, climate, terrain) into account. However, agricultural production potential is not only a function of these things. There are a number of other factors that influence whether a piece of land can practically deliver agricultural produce or not and which therefore influence its agricultural production potential. In this case, the natural agricultural potential of the site is further limited by excavations and disturbances to the soil and by the property size, which limits the economic viability of farming on the site.

This site sensitivity verification verifies the entire site as being of medium agricultural sensitivity with a land capability value of 6. The medium sensitivity is in keeping with the natural and other limitations that make the site too marginal for viable crop production. The required level of agricultural assessment is confirmed as an Agricultural Compliance Statement due to the site's verified medium agricultural sensitivity.

4 Baseline agricultural environment

The site has a low mean annual rainfall of approximately 267 mm and a high mean annual evaporation of approximately 1,457 mm (Schulze, 2009). The site has a low slope gradient with a maximum of approximately 3%. The site falls within the land type, Db285. The geology is mainly shale and sandstone of the Ceres Subgroup of the Bokkeveld Group with alluvium. Soils are predominantly deep to moderately deep, very sandy soils on underlying clay. The dominant soil forms are Kroonstad, Estcourt and Fernwood. The cropping potential of the site is limited by the combination of the marginal climate and the very sandy soils that have limited water holding capacity.

5 Assessment of agricultural impact

The agricultural impact of the proposed development is the loss of the property to potential future agricultural use. The agricultural impact of the proposed project is assessed as being low because the site is currently not used for agricultural production and has significant limitations on future agricultural production potential.

It should be noted that the conservation of agricultural land that is in proximity to urban areas is under inevitable pressure from various non-agricultural land uses including urban expansion. The cumulative impact of agricultural land loss close to urban centres in the Western Cape 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 no current agricultural production and limited capacity for future agricultural production. Therefore it is a property to which inevitable non-agricultural land use can be steered without a high loss of agricultural production potential.

6 Agricultural Compliance Statement

An Agricultural Compliance Statement is required to indicate whether 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.

The impact of the proposed development on the agricultural production capability of the site is assessed as being acceptable because, as discussed above, the site has no current production and limited future production potential. There will therefore be minimal loss of future agricultural production potential as a result of the proposed development. It is therefore recommended that the development be approved.

The protocol requirement of confirmation that all reasonable measures have been taken through micro-siting to avoid or minimise fragmentation and disturbance of agricultural activities, is not relevant in this case. There are also no Environmental Management Programme inputs required for the protection of agricultural potential on the site.

The conclusion of this assessment on the acceptability of the proposed development and the recommendation for its approval is not subject to any conditions. In completing this statement, no assumptions have been made and there are no uncertainties or gaps in knowledge or data that are relevant to it. No further agricultural assessment of any kind is required for this application.

The required relevant experience, proving the specialist's fitness for completing this assessment, is given in the curriculum vitae below.

A handwritten signature in black ink, appearing to read 'J. Lanz', with a stylized flourish extending to the left.

J. Lanz (Pr. Sci.Nat.)
25 October 2022

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 Consultants 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*.

DECLARATION OF THE SPECIALIST

Note: Duplicate this section where there is more than one specialist.

I, **Johann Lanz**, as the appointed Specialist hereby declare/affirm the correctness of the information provided or to be provided as part of the application, and that I:

- in terms of the general requirement to be independent:
 - other than fair remuneration for work performed/to be performed in terms of this application, have no business, financial, personal or other interest in the activity or application and that there are no circumstances that may compromise my objectivity; or
 - ~~• am not independent, but another specialist that meets the general requirements set out in Regulation 13 have been appointed to review my work (Note: a declaration by the review specialist must be submitted);~~
- in terms of the remainder of the general requirements for a specialist, am fully aware of and meet all of the requirements and that failure to comply with any the requirements may result in disqualification;
- have disclosed/will disclose, to the applicant, the Department and interested and affected parties, all material information that have or may have the potential to influence the decision of the Department or the objectivity of any report, plan or document prepared or to be prepared as part of the application; and
- am aware that a false declaration is an offence in terms of regulation 48 of the 2014 NEMA EIA Regulations.

Signature of the specialist:



Date: **25 October 2022**

Name of company: **Johann Lanz – soil scientist (sole proprietor)**