

**Site sensitivity verification
and Agricultural Compliance Statement
for proposed university precinct development on a portion of the
Remainder of Erf 464, George**

1 Introduction

Environmental authorisation is being sought for the development of a tertiary education campus, with associated residential units and open spaces (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.

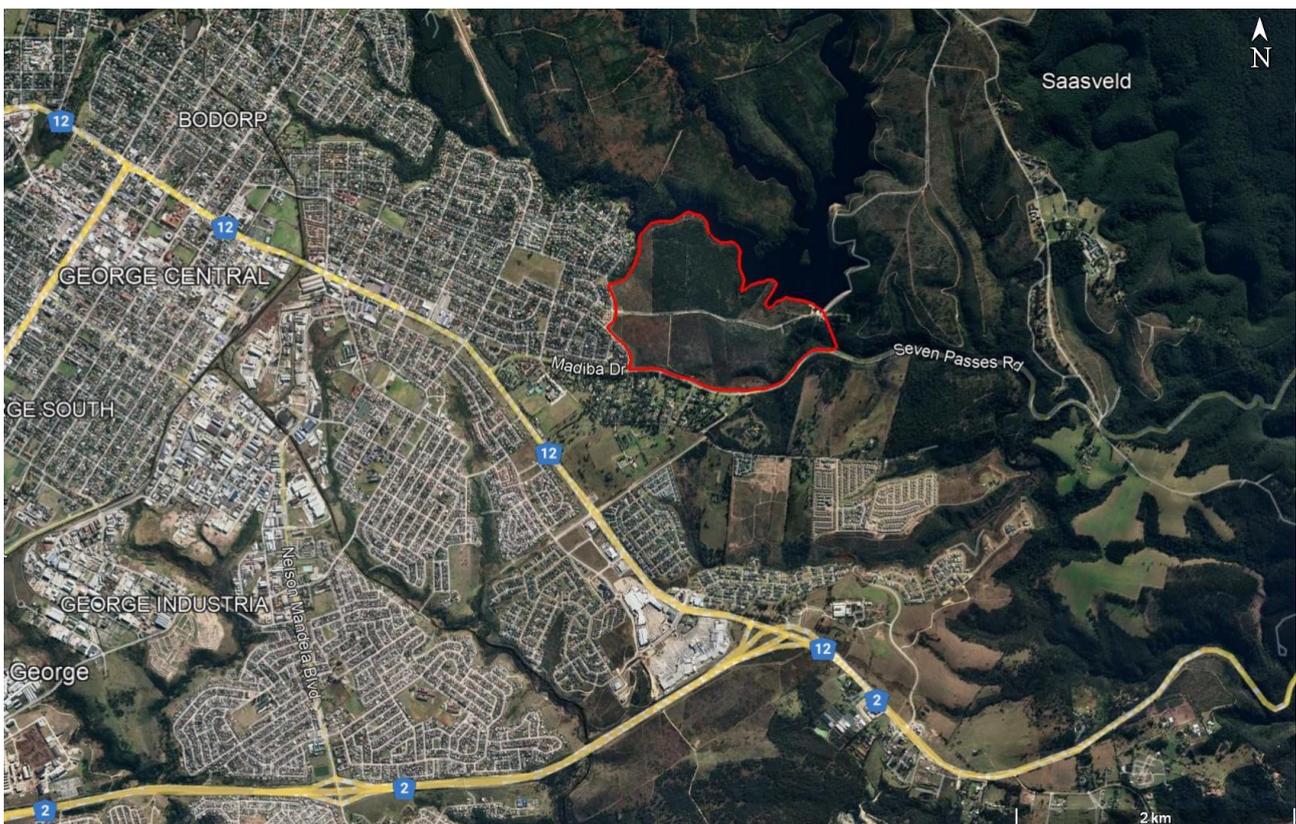


Figure 1. The locality of the proposed development (red outline) on the eastern outskirts of George.

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 aim of the protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources is to preserve valuable agricultural land for agricultural production. Valuable land is considered to be predominantly scarce arable land that is suitable for the viable production of cultivated crops. This site however has been used only for plantation forestry and has significant limitations for crop production and is therefore not considered particularly preservation-worthy as agricultural production land.

The Protocol for the specialist assessment and minimum report content requirements of environmental impacts on agricultural resources, gazetted on 20 March 2020, states that:

prior to commencing with a specialist assessment, the current use of the land and the environmental sensitivity of the site under consideration, identified by the screening tool, must be confirmed by undertaking a site sensitivity verification that confirms or disputes the current use of the land and the environmental sensitivity as identified by the screening tool.

2 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, and as used in the national web-based environmental screening tool, 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 general assessment of agricultural sensitivity that is employed in the national web-based environmental screening tool, identifies all arable land that can support viable production of cultivated crops, as high (or very high) sensitivity. This is because there is a scarcity of arable production land in South Africa and its conservation for agricultural use is therefore a priority. Land which cannot support viable production of cultivated crops is much less of a priority to conserve for agricultural use, and is rated as medium or low agricultural sensitivity.

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

The screening tool sensitivity categories in terms of land capability are based upon the Department of Agriculture's updated and refined, country-wide land capability mapping, released in 2016. 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 values (≥ 8 to 15) are likely to be suitable as arable land for the production of cultivated crops, while lower values are only likely to be suitable as non-arable, grazing land, or at the lowest extreme, not even suitable for grazing.

A map of the proposed development area overlaid on the screening tool sensitivity is given in Figure 2. Because none of the land is classified a cultivated land, agricultural sensitivity is purely a function of land capability. The land capability of the site is predominantly 7 to 8, but varies from 4 to 9. Values of 4 to 5 translate to a low agricultural sensitivity, values of 6 to 8 translate to a medium agricultural sensitivity, and values of 9 translate to a high agricultural sensitivity. There are, however, only two pixels of 9 within the site. The variation in land capability is almost entirely due to the way that slope influences the generation of land capability by modelling.

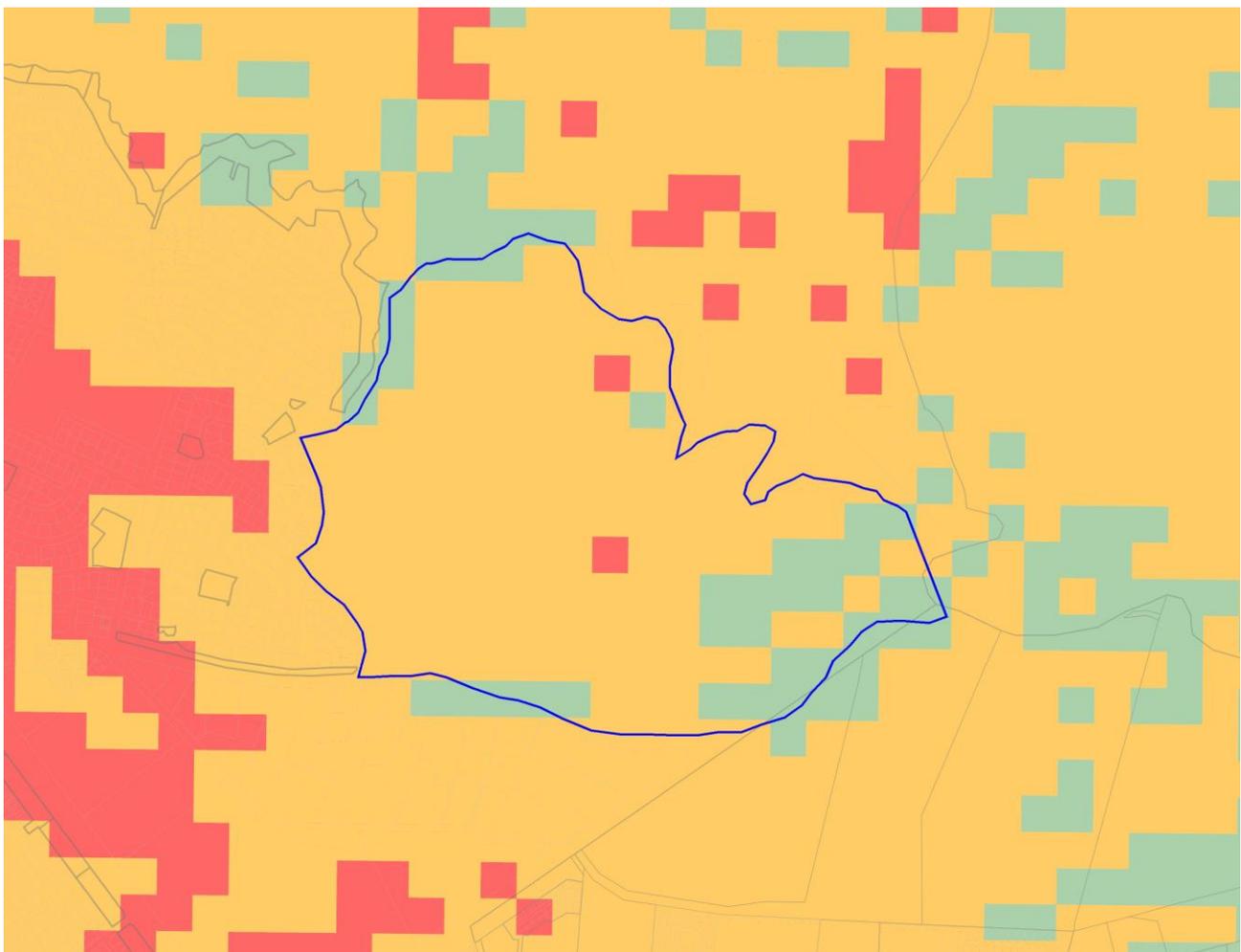


Figure 2. The proposed development footprint (blue outline) overlaid on agricultural sensitivity as identified by the screening tool (green = low; yellow = medium; red = high).

The high sensitivity attributed to the site by the screening tool is disputed by this assessment. As discussed above, high sensitivity should indicate viability for cultivated crop production. However, there are a number of factors that limit the site's potential for crop production. The fact that the land has never been used for crop production, suggests that it is unsuitable. The limiting factors are:

- Steep slopes on some of the land
- The fact that the land is municipally owned does not encourage its use for agricultural production.
- The soils have limited potential for crop production. According to the land type soil data (see Appendix 1), the site is totally dominated by fairly shallow, fairly poorly drained duplex soils (having a distinct transition from a sandy topsoil to a clay rich subsoil).

Because of these constraints, the site is not suitable for viable crop production, and is therefore assessed as being only of medium agricultural sensitivity rather than high agricultural sensitivity. High agricultural sensitivity should be reserved for land that is suitable for viable crop production.

The agricultural protocol states:

An applicant intending to undertake an activity identified in the scope of this protocol on a site identified on the screening tool as being of very high or high sensitivity for agricultural resources must submit an Agricultural Agro-Ecosystem Specialist Assessment unless:

information gathered from the site sensitivity verification differs from the designation of very high or high agricultural sensitivity, and it is found to be of a medium or low sensitivity.

If the above applies, an Agricultural Compliance Statement must be submitted.

In this case, the above exception does apply, as has been argued above, and the required level of agricultural assessment is therefore an Agricultural Compliance Statement.

3 Agricultural Compliance Statement

It is hereby confirmed that the site is of less than high sensitivity for agriculture, because of limitations imposed by its slopes, soils and ownership. It is furthermore confirmed that, because of the limits to agricultural potential and use, the proposed development will not have an unacceptable negative impact on the agricultural production capability of the site. Therefore, from an agricultural impact point of view, it is recommended that the development be approved.

The entire site will be excluded from agricultural use. Therefore, 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. For the same reason, there are 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 long horizontal stroke extending to the left.

J. Lanz (Pr. Sci. Nat.)
16 September 2021

Appendix 1: Table of land type soil data

Land type	Soil series (forms)	Depth (mm)	Clay % A horizon	Clay % B horizon	Depth limiting layer	% of land type
Db33	Estcourt	250 - 700	3 - 12	30 - 65	pr	50
Db33	Sterkspruit	250 - 400	3 - 12	40 - 60	pr	13
Db33	Longlands	500 - 800	6 - 15	20 - 35	sp	9
Db33	Kroonstad	500 - 800	8 - 20	40 - 50	gc	9
Db33	Swartland	200 - 500	10 - 20	40 - 60	vp	5
Db33	Wasbank	400 - 600	3 - 12		hp	4
Db33	S					3
Db33	Westleigh	300 - 500	6 - 15	10 - 35	sp	3
Db33	Glenrosa	400 - 600	3 - 12	10 - 20	so	3
Db33	Hutton	800 > 1200	10 - 25	20 - 45	R	1
Db33	Mispah	50 - 200	3 - 6		R	1
Db33	Rock outcrop					1

Depth limiting layers: R = hard rock; so = partially weathered bedrock; lo = partially weathered bedrock (softer); ca = soft carbonate; ka = hardpan carbonate; db = dorbank hardpan; hp = cemented hardpan plinthite (laterite); sp = soft plinthic horizon; pr = dense, prismatic clay layer; vp = dense, structured clay layer; vr = dense, red, structured clay layer; gc = dense clay horizon that is frequently saturated; pd = podzol horizon; U = alluvium.

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.
- 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:

A handwritten signature in black ink, appearing to read 'Johann Lanz', with a stylized flourish at the end.

Date: **16 September 2021**

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