

SITE SENSITIVITY VERIFICATION (SSV) REPORT

PROJECT DESCRIPTION: STYR-KRAAL AGRICULTURAL DEVELOPMENT: PROPOSED STYR-KRAAL AGRICULTURAL DEVELOPMENT ON THE REMAINING EXTENT OF PORTION 0 OF FARM STYR-KRAAL, FARM NO. 81, POFADDER, KHÂI-MA LOCAL MUNICIPALITY, NAMAKWA DISTRICT MUNICIPALITY

INTRODUCTION:

This Site Sensitivity Verification (SSV) Report was undertaken in terms of the *Protocols for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes* (referred to “the Protocols” hereafter) as per Government Notice No. 320 (published in Government Gazette No. 43110 on 20 March 2020)¹. These Protocols, effected as on the 9th May 2020, must be complied with for every new application submitted after the effective date. According to the Protocols, the EAP must verify the current use of the proposed site for development as well as the site’s environmental sensitivity, in accordance with the DEA Screening Tool (Appendix E – DEA Screening Tool), to determine the need for specialist inputs in relation to the themes (and proposed specialist assessments) included in the Protocols.

METHODOLOGY:

The Site Sensitivity Verification (SSV) report was compiled based on desktop studies [including Biodiversity Spatial Plan, vegetation maps (Vegetation map of SA (Mucina & Rutherford, 2006)), NFEPA, land-use map, google earth imagery, historical imagery, and QGIS), specialist input (Botanical, Freshwater, and Heritage inputs) in combination with a site visit to investigate, identify, and evaluate potential impacts, associated with the proposed development, on the receiving environment (namely the proposed site for development). The SSV report was compiled by the EAP (Mr Anthony Mader).

AIM OF THE SSV REPORT:

The aim of the SSV Report is to;

- Verify land use and theme sensitivities as identified by the DEA Screening Tool;
- Confirm or disconfirm the need for a particular specialist assessment(s) as indicated by the DEA Screening Tool; and
- Should the need for a specialist assessment be challenged, provide a motivation as to why the proposed a particular theme(s) is not applicable to the proposed development.

¹ The Protocols are in line with Section 24(5)(a) and (h) and Section 44 of the National Environmental Management Act (NEMA), 1998 (Act No. 107 of 1998).

Please note: that this SSV report must be read in combination with the Draft Scoping Report as well as applicable specialist reports. This will aid in contextualizing the transformed / disturbed status of the proposed site for development. Please refer to the Draft Scoping Report for more information.

SITE DESCRIPTION:

The Schamboua Trust is proposing the development of the Styr-Kraal Agricultural Development, and associated infrastructure, on Remaining Extent of Portion 0 of Farm Styr-Kraal, Farm No. 81, Pofadder, situated within Ward 1 of the Khâi-Ma Local Municipality, Namakwa District Municipality (Figure 1). The total area to be developed measures approximately 155 (one hundred and fifty-five) hectares. The site is located approximately 51km north of Pofadder at the following co-ordinates: 28°40'39.90"S; 19°31'2.93"E. The proposed agricultural development graphical represents the constituents of the proposed development (Figure 1).

Name of Project:	Styr-Kraal Agricultural Development
Project Ref:	EnviroAfrica_0523
Client:	Schamboua_Trust
EAP:	Ansone' Esterhuizen
Date:	01/10/2021



Legend

- WORKERS HOUSING .5HA
- TEMP WORKERS HOUSING 2HA
- PUNPSTATION
- EXISTING STORAGE DAM
- Dam Construction Footprint
- BOOSTER STATION
- GRAPES 21HA
- GRAPES 56HA
- GRAPES 6HA
- DATES 43HA
- DATES 40 HA
- DATES 26HA
- DATES 12HA
- DATES 4HA
- DRYING BEDS 10HA





Figure 2. Overview of characteristics associated with the proposed site for development.



Figure 3. Overview of characteristics associated with the proposed site for development.

Table 1. Themes and associated sensitivity as per the DEA Screening Tool.

No	Theme	DEA Sensitivity	Agree / Disagree	Proposed Sensitivity	Motivation
1	Agriculture Theme	Very High Sensitivity	Agree	Very High Sensitivity	The proposed development is for the development of approximately 142ha of cropland (namely grapes and dates). Therefore, this project is in line with the high sensitivity. Although the site was previously cultivated, the project will promote agriculture within the area. The proposed development is required to ensure the long-term economic viability and sustainability of the production of grapes and dates. Moreover, the proposed dam will ensure a reliable water supply for irrigation. Various climatic drivers, namely higher temperatures and drier conditions further exacerbate the impact of drought events on the agricultural sector ² , which require careful planning and adequate responses to sustain and grow the sector. In this area, the agricultural industry depends on water abstracted from the Orange River for irrigation. Furthermore, the proposed development is in line with the land capability and pivot irrigation as highlighted in the DEA Screening Tool. Thus, this project is in line with the Agricultural Theme Sensitivity and therefore, it is envisaged that the proposed development will not compromise the agricultural themem sensitivity.
2	Animal Species Theme	Medium Sensitivity	Disagree	Low Sensitivity	As per the DEA Screening Tool, the animal species sensitivity was associated with the rocky outcrops (Figure 4). It must be note that the rocky outcrops occur outside of the proposed development footprint. Rocky outcrops are prominent geological features present in agricultural landscape where the need to conserve these rocky outcrops presents a gap in literature ³ . Rocky outcrops may also create potential refugia for animals amid climate change ⁴ . Therefore, specific rocky outcrop management actions may be required which includes the protection of rocky outcrops from anthropogenic activities which may negatively impact the microhabitat of rockys present in the outcrops. Potential impacts will be addressed. No animal species were observed during the site visit.

² Zscheischler, J., Martius, O., Westra, S., Bevacqua, E., Raymond, C., Horton, R.M., van den Hurk, B., AghaKouchak, A., Jézéquel, A., Mahecha, M.D. and Maraun, D. 2020. A typology of compound weather and climate events. *Nature reviews earth & environment*, pp.1-15.

³ Michael DR, Lindenmayer DB, Cunningham RB. Managing rock outcrops to improve biodiversity conservation in Australian agricultural landscapes. *Ecological Management & Restoration*. 2010 Apr;11(1):43-50.

⁴ García MB, Domingo D, Pizarro M, Font X, Gómez D, Ehrlén J. Rocky habitats as microclimatic refuges for biodiversity. A close-up thermal approach. *Environmental and Experimental Botany*. 2020 Feb 1;170:103886.



Figure 4. Rocky outcrops outside of the development footprint.

3	Aquatic Biodiversity Theme	Very High Sensitivity	Disagree	High Sensitivity	A portion of the proposed development, namely the area proposed for date production, is located within a wetland and in close proximity to a non-perennial watercourse (north of the proposed development). The proposed abstraction point (28°40'11.07"S; 19°29'33.32"E) is also located within the Orange River. A Freshwater Assessment was undertaken due to the need for a (i) WUA, and (ii) to determine the potential impact of the proposed development on the watercourse. During the site visit, no saturated areas or vegetation characteristic of a wetland, were observed.
4	Archaeological and Cultural	Low Sensitivity	Agree	Low Sensitivity	As per the HIA (appended to Draft Scoping Report), no archaeological or heritage resources were recorded within the development footprint. Therefore, it is agreed that the site has a low Archaeological and Cultural Heritage sensitivity.

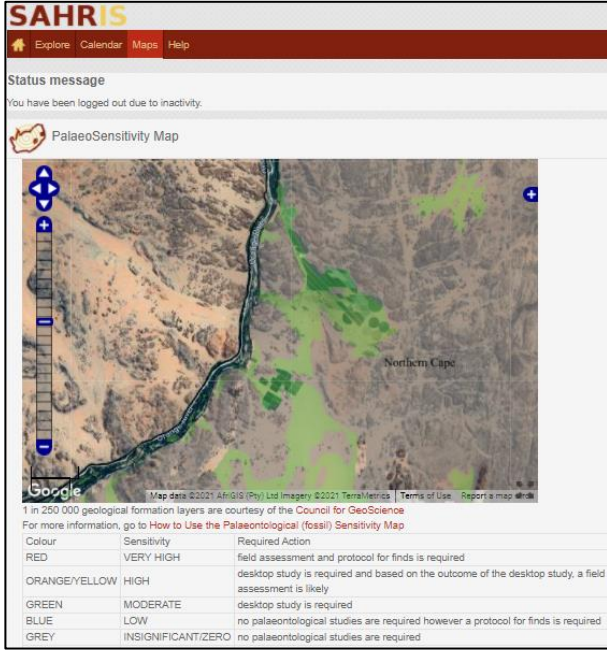
	Heritage Theme																						
4	Civil Aviation Theme	High Sensitivity	Disagree	Low Sensitivity	Although the site is located within 8km of a civil aviation aerodrome, the nature of the proposed development (i.e.agricultural development) is highly unlikely to impact any civil aviation activities as the nature of the proposed development is in line with surrounding land uses (i.e. agriculture to the north and south of the proposed site).																		
5	Defence Theme	Low Sensitivity	Agree	Low Sensitivity	There are no defence related structures or zones on the site or within close proximity to the site. Therefore, it is envisaged that the proposed development will not impact on any defence related theme.																		
	Paleontological Theme	Medium Sensitivity	Disagree	Low Sensitivity	<p>As per the SAHRIS Paleontological Online Map Tool (https://sahris.sahra.org.za/map/palaeo), the proposed site is situated within an area of low paleontological significance (represented as green and grey in Figure 5). Therefore, it is envisaged that the proposed development is unlikely to impact any paleontological features.</p>  <p>SAHRIS Explore Calendar Maps Help</p> <p>Status message You have been logged out due to inactivity.</p> <p>PalaeoSensitivity Map</p> <p>Map data ©2021 AFGIS (Pty) Ltd Imagery ©2021 TerraMetrics Terms of Use Report a map error</p> <table border="1"> <thead> <tr> <th>Colour</th> <th>Sensitivity</th> <th>Required Action</th> </tr> </thead> <tbody> <tr> <td>RED</td> <td>VERY HIGH</td> <td>field assessment and protocol for finds is required</td> </tr> <tr> <td>ORANGE/YELLOW</td> <td>HIGH</td> <td>desktop study is required and based on the outcome of the desktop study, a field assessment is likely</td> </tr> <tr> <td>GREEN</td> <td>MODERATE</td> <td>desktop study is required</td> </tr> <tr> <td>BLUE</td> <td>LOW</td> <td>no palaeontological studies are required however a protocol for finds is required</td> </tr> <tr> <td>GREY</td> <td>INSIGNIFICANT/ZERO</td> <td>no palaeontological studies are required</td> </tr> </tbody> </table>	Colour	Sensitivity	Required Action	RED	VERY HIGH	field assessment and protocol for finds is required	ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely	GREEN	MODERATE	desktop study is required	BLUE	LOW	no palaeontological studies are required however a protocol for finds is required	GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
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Figure 5. Paleontological sensitivity of the proposed site for development. Source: SAHRIS.

					However, findings from the Paleontological desktop study (appended to Draft Scoping Report) shows that the Palaeontological Sensitivity of the Kalahari Group is moderate while that of the Daberas Granodiorite and Schuitdrift Gneiss is zero and that the proposed impact on the Paleontological Theme is classified as low.
6	Plant Species Theme	Medium Sensitivity	Disagree	Low Sensitivity	As per Figures 2 and 3, the site may be characterized as having a disturbed and sparse vegetation structure. Therefore, it is envisaged that the proposed development is highly unlikely to impact any plant species of conservational value. However, due to the size of the proposed development, a Botanical Impact Assessment will be conducted.
7	Terrestrial Biodiversity Theme	Very High Sensitivity	Disagree	High Sensitivity	Please refer to "Animal Species Theme". Please note that a Botanical Impact Assessment will be conducted.

Table 2. Specialist assessments identified as per the DEA Screening Tool.

No	Proposed Specialist Assessment	Verification of Site Sensitivity And Motivation On The Need For Specialist Investigation	Will the specialist study be conducted?
1	Landscape/ Visual Impact Assessment	The nature of the proposed development (i.e. agricultural development) is in line with surrounding land uses (namely agricultural developments located to the north and south of the proposed site) and will therefore, not be a novel visual impact. Therefore, it is envisaged that a Visual Impact Assessment will not be required.	No. It is envisaged that a Landscape/ Visual Impact Assessment assessment will not required.
2	Archaeological and Cultural Heritage Impact Assessment (HIA)	As per section 38 of the National Heritage Resources Act, 1999 (Act 25 of 1999), and more specifically section 38. (1) (c) - any development or other activity which will change the character of a site- <i>(i) exceeding 5 000 m² in extent;</i> The proposed development footprint is comprised of disturbed land. A Heritage Impact Assessment (appended to Draft Scoping Report) has been undertaken. As per the HIA, no archaeological sites, features or resources were identified within the proposed development footprint. This includes a full Paleontological desktop study.	A Heritage Impact Assessment and full paleontological desktop study was conducted.

3	Palaeontological Impact Assessment	A full Paleontological desktop study was undertaken where the Palaeontological Sensitivity of the Kalahari Group is moderate while that of the Daberas Granodiorite and Schuitdrift Gneiss is zero. Results obtained from the desktop study shows that the proposed development will have a low impact on the paleontological resources. No mitigation measures are required.	A Heritage Impact Assessment and full paleontological desktop study was conducted.
4	Terrestrial Biodiversity Assessment	No animals were noted on site during the site visit. A Botanical Study will be conducted. Therefore, it is envisaged that the proposed development is highly unlikely to impact any plant species of conservational value.	A Botanical Assessment will be conducted.
5	Aquatic Biodiversity Impact Assessment	As per the DEA Screening Tool, the Aquatic Biodiversity Theme is classified as Very High. A Freshwater Assessment will be conducted.	A Freshwater Assessment will be conducted.
6	Hydrological Assessment	Please see comment above.	
7	Socio-economic Assessment	All comments received from I&APs will be addressed and responded to by the relevant personnel, namely the EAP, Applicant, and/ or Specialists. Conditions and measures will be implemented to mitigate any impacts on socioeconomic development within the area and surrounds. Therefore, it is envisaged that a Socio-economic Assessment will not be required. <i>Please refer to the Draft Scoping Report for more information.</i>	No, it is envisaged that a socio-economic assessment will not be required.
8	Plant Species Assessment	Although the Plant Species Theme was classified as Medium (see DEA Screening Tool), a Botanical Assessment will be conducted. The proposed site is located within the Lower Gariep Alluvial Vegetation type and Lower Gariep Broken Veld vegetation type, vegetation types classified as Least Threatened. During the site visit, the vegetation structure may be described as disturbed, sparse vegetation. Therefore, it is envisaged that the proposed development is highly unlikely to impact any plant species of conservational value.	Yes, a Botanical Assessment was conducted.
9	Animal Species Assessment	No animals were noted on site during the site visit however, conditions and measures will be addressed and stipulated in the Draft EIR and EMP to mitigate potential impact(s) of the proposed development on animal species. This will include the management of rocky outcrops and conducting earth moving activities in phases (to enable any animal species which may be present to move away from the area and to reduce soil erosion). Therefore, it is envisaged that no Animal Species Assessment will be required.	No, it is envisaged that an Animal Species Assessment will not be required.
10	Civil Aviation	Although the site is located within 8km of a civil aviation aerodrome, the nature of the proposed development (i.e. agricultural development) is highly unlikely to impact any civil aviation activities as the nature of the	No, it is envisaged that a Civil Aviation assessment will not be required.

		proposed development is in line with surrounding land uses (i.e. agriculture to the north and south of the proposed site).	
11	Defence	There are no defence related structures or zones on the site / within close proximity to the site. Due to the nature of the proposed project, i.e. Agricultural Development, it is envisaged that the proposed expansion will not impact any defence-related activities.	No, it is envisaged that a Defence assessment will not required.



Please do not hesitate to contact me should you require any further information or clarity on the above.

Best Regards,

Ansoné Esterhuizen



Environmental Assessment Practitioner

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