PROJECT NAME:
THE PROPOSED 10MWAC GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY NEAR CALA WITHIN THE SAKHISIZWE LOCAL MUNICIPALITY, EASTERN CAPE PROVINCE.

REPORT TITLE:
SITE SENSITIVITY VERITIFCATION REPORT

DATE:
10 July 2026

ENVIRONMENTAL ASSESSMENT PRACTITIONER:
ABANTU ENVIRONMENTAL SERVICES (PTY) LTD

ABANTU ENVIRONMENTAL SERVICES

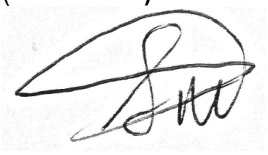
DEVELOPER:

ILINGE ENERGY AUTOMATION (PTY) LTD

iLiNGE Energy Automation

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DATE	24 May 2026	June 2026	July 2026

DECLARATION OF INDEPENDENCE

I, Sive Mlamla , in my capacity as an EAP, hereby declare that I –

- Act as an independent consultant
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed.
- Have and will not have vested interest in the activity.
- Have no, and will not engage in, conflicting interests in the undertaking of the activity.
- Undertake to disclose any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan, or document.
- Will provide the competent authority with access to all information at my disposal regarding the report, whether such information is favourable to the Client or not.
- Based on information provided to me by the Client and in addition to information obtained during the course of this study, have presented the results and conclusion within the associated document to the best of my professional ability
- Reserve the right to modify aspects pertaining to the present investigation should additional information become available through on-going research and/or further work in this field.
- Undertake to have my work peer reviewed on a regular basis by a competent specialist.



Sive Mlamla (*Pr.Sci.Nat* (SACNASP) & *Reg. EAP* (EAPASA))

Environmental Assessment Practitioner

DETAILS AND EXPERTISE OF THE EAP

Abantu Environmental Services (Pty) Ltd has been appointed by Ilinge Energy Automation (Pty) Ltd, to apply for an environmental Authorisation (EA) by way of a Basic Assessment process for the proposed Grootfontein Agrovoltaic Solar energy facility within the Sakhisizwe Local Municipality in the Eastern Cape. The Basic Assessment process is being undertaken in terms of the Environmental Impact Assessment Regulations, 2014 as amended (EIA Regulations) enacted under the National Environmental Management Act, 1998 (Act 107 of 1998) as amended (NEMA). Refer to

Table 1 and **Table 2** below for EAP's details.

Table 1: Environmental Assessment Practitioner details

Contact Details	
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EAP	Sive Mlamla
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Website	Website: www.abantuenvironmental.co.za

Expertise of the Lead EAP are entailed in **Table 2**

Table 2. EAP Details

Environmental Assessment Practitioner:	Mr Sive Mlamla
Expertise:	Sive Mlamla is an environmental scientist with 11 years of experience in scientific research, lecturing and environmental consulting. His key expertise includes environmental impact assessments, environmental compliance auditing, waste planning, proposal & business development, project management, strategic planning, research design & execution, remote sensing & GIS applications for land use/cover change mapping and fluvial geomorphology. **Qualifications** • M.Sc. Geography (Catchment Hydrology) • B.Sc. Honours Environmental Geography • B.Sc. Environmental Sciences (Botany and Geography) **Professional registrations:**

Environmental Assessment Practitioner:	Mr Sive Mlamla
	• Registered Professional Natural Scientist (Pr.Sci.Nat) - Reg. No. 118495 – SACNASP • Registered Environmental Assessment Practitioner (Reg. EAP (EAPASA)) - Reg. No. 2022/5204 **Training:** • Practical Implementation of Environmental Auditing and Monitoring (2025) • WET-Health Tool & WET-EcoServices for Level 1B and Level 2 assessment (2025) • WET-Health Tool for Level 1A assessment (2025) • Environmental Impact Assessments (2025) • Introduction to Synthetic Aperture Radar and Applications (2024) • Earth Observation Data Analysis with Google Earth Engine (2023) • People Management Skills (2017) • Biodiversity spatial data management, acquisition, and analysis (2018) • Water Use Licence Applications via e-WULAAS (2020) • Remote Sensing (land use/cover classification) and SWAT hydrologic modelling (2017) **Memberships:** • Member of the South African Wetlands Society Reg. No. S9BPP477 • Member of the Southern African Association of Geomorphologists • Institute of Waste Management of Southern Africa (IWMSA) Reg No. 40120001

As per the requirements of the NEMA Regulations and Regulation 14(6) in the S24H Registration Authority Regulations, 2016, as amended, details of the Candidate EAP who assisted in the compilation of the report under the supervision of the EAP are provided in **Table 3** below.

Table 3. Candidate Environmental Assessment Practitioner details

Candidate Environmental Assessment Practitioner:	Mr Sikhanyisele Magaxa
Expertise:	Junior Environmental Scientist with 4 years' experience in environmental consulting and scientific research. My expertise includes scientific report writing, data analysis, monitoring and conducting environmental compliance audits. **Qualifications** • B.Sc. Honours Environmental Sciences • B.Sc. Geosciences (Geology and Geography) **Professional registration:** • Candidate Natural Scientist (Cand.Sci.Nat) Registration No. 166052 • Candidate Environmental Assessment Practitioner (Cand. EAP) Registration No. 2025/20768 **Training:** • Introduction Environmental Impact Assessments (2024)

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ACRONYMS AND ABBREVIATIONS

BA	Basic Assessment
EA	Environmental Authorisation
EMPr	Environmental Management Programme
NEMA	National Environmental Management Act
DFFE	Department of Forestry, Fisheries and the Environment
ESA	Ecological Support Area
CBA	Critical Biodiversity Area
IDP	Integrated Development Plan
NFEPA	National Freshwater Ecosystem Priority Areas
RFI	Radio Frequency Interference
SEF	Solar Energy Facility
SAHRA	South African Heritage Resources Agency
Stats SA	Statistics South Africa
ECBCP	Eastern cape biodiversity conservation plan
SANBI	South African national biodiversity institute
SLM	Sakhisizwe Local Municipality
SSV	Site Sensitivity Verification
SWSA	Strategic Water Source Area

1. INTRODUCTION

1.1 PROJECT BACKGROUND

Abantu Environmental Services (Pty) Ltd has been appointed by Ilinge Energy Automation (Pty) Ltd, to apply for an EA by way of a Basic Assessment process for the proposed Grootfontein Agrovoltaic Solar Energy Facility (SEF) in Macangceni within the jurisdiction of the Sakhisizwe Local Municipality, Gqeberha (**Figure 1**).

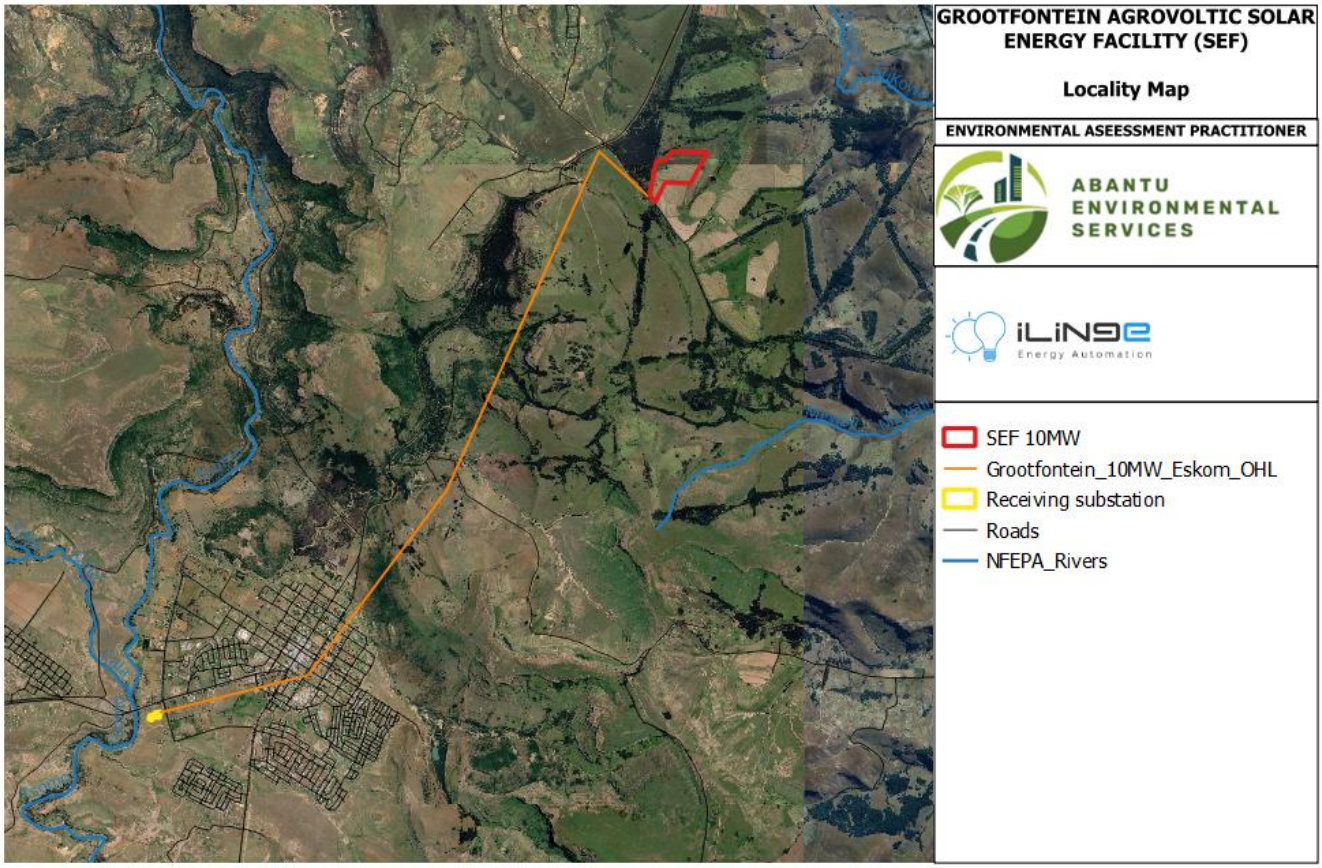


Figure 1. Locality map of the proposed development.

1.2 PROJECT DESCRIPTION

The proposed development is a grid-connected photovoltaic (PV) power plant, located at the coordinates outlined in **Table 5**, designed to generate up to 10 MWac of clean electricity at the point of injection into the Eskom distribution network. Key infrastructure that will form part of the development is summarised in **Table 4**.

Table 4. Key Infrastructure of the development.

Infrastructure Element	Description
SEF	
PV Array Field	11.85 MWdc enclosed within the blue boundary polygon. Single-axis horizontal E-W tracker configuration.
Total Number of Modules	17 793 units
Tracker Type	Single-axis, horizontal East-West axis tracking
Tracker Tilt Range	-/+ 55° from horizontal
Total Module Area	**55 271 m² (5.53 hectares development footprint)**
Total Cell Area	51 788 m²
Associated infrastructure	
O&M Building	Located at the southern edge of the array field, adjacent to the IPP Switching Station. Houses inverter control, SCADA, and maintenance facilities.
Internal Access Road	Gravel internal access road (5 m wide) circling the site for maintenance vehicle access and security patrol.
Agrovoltaic Buffer Zone	Clearance maintained between rows to allow compatible agricultural activities (grazing, low crops).

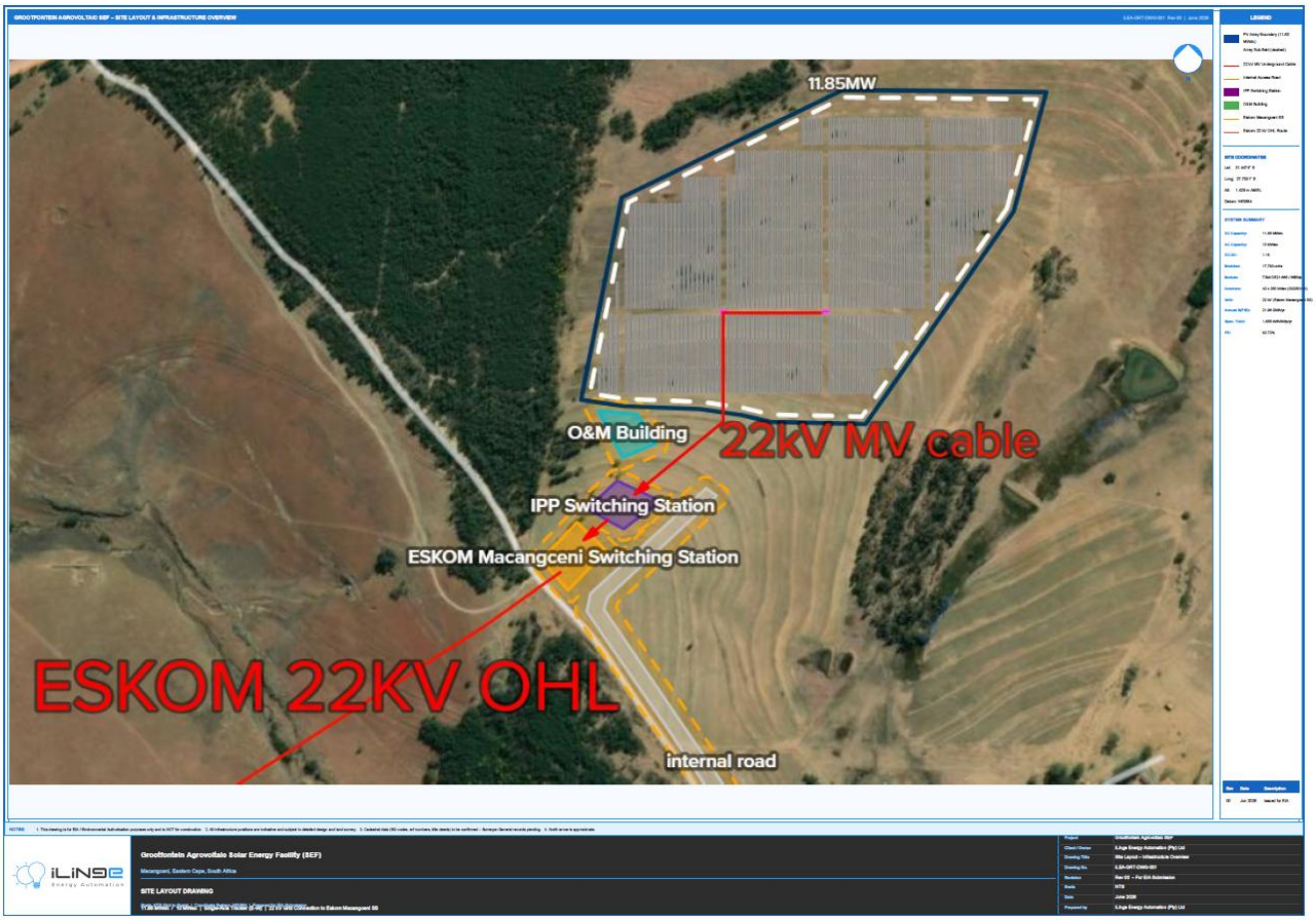


Figure 2. Site Layout Plan of the solar facility.

The following civil and structural works are associated with the Grootfontein SEF:

- Site clearing and grading limited to access roads and building pads to minimise land disturbance
- Driven or screw-pile foundations for single-axis tracker structures (no concrete excavations required for array structure)
- Concrete strip or pad foundations for the O&M building and IPP Switching Station
- Gravel internal access road (5 m wide) encircling the site perimeter for maintenance and security access
- Stormwater drainage channels at site perimeter and access road interfaces
- Security perimeter fencing (2.4 m palisade or electrified game fence) with access control gate

Table 5. Coordinates of the development

	Latitude (S)	Longitude (E)
PV Area	31°27'52.67"S	27°44'52.22"E
	31°27'53.31"S	27°45'10.34"E
	31°28'6.38"S	27°45'1.71"E
	31°28'6.23"S	27°44'48.89"E

	Latitude (S)	Longitude (E)
	31°28'14.65"S	27°44'43.62"E
	31°28'11.36"S	27°44'41.03"E
	31°27'56.87"S	27°44'44.26"E
	31°27'55.88"S	27°44'50.28"E

The aim of this report is to verify land use and theme sensitivities as identified by the national Department of Forest Fisheries and the Environment (DFFE) Screening Tool and also confirm the need for particular specialist assessments as indicated by the Screening Report.

2. METHODOLOGY

2.3 SCREENING TOOL IDENTIFIED SITE SENSITIVITY

On 20 March 2020 the Minister of Forestry, Fisheries and the Environmental published the general requirements for undertaking site sensitivity verification for environmental themes for activities requiring environmental authorization (Government Gazette No. 43110). In terms of these requirements, prior to commencing with a specialist assessment, the current land use and environmental sensitivity of the site under consideration by the screening tool must be confirmed by undertaking a site sensitivity verification.

In accordance with the Notice of the requirement to submit a report generated by the national web-based environmental screening tool in terms of section 24(5)(h) of the NEMA, 1998 (Act No 107 of 1998) and regulation 16(1)(b)(v) of the EIA regulations, 2014, as amended, a screening tool was generated and identified specific site sensitivities and themes to be assessed for this specific project. The specialist themes in section 5.5 were identified. The site investigation took place on 24 May 2026.

Finding of the investigation are entailed in the subsequent section.

3. SENSITIVITY OF THE PROPOSED DEVELOPMENT SITE

3.1 SITE SENSITIVITIES IDENTIFIED/ OUTCOMES OF SCREENING REPORT

This section entails the sensitivities, and the required specialists identified by the Screening Report (**Table 7**).

Table 6. Site sensitivities identified

Category/ Theme	SEF 1OMW
Agriculture Theme	High
Animal Species Theme	Medium
Aquatic Biodiversity Theme	Very High
Archaeological and Cultural Heritage Theme	Low
Avian	Very High
Civil Aviation Theme	Low
Defense Theme	Low
Landscape	Very High
Paleontology Theme	Very High
Plant Species Theme	Medium
RFI	Low
Terrestrial Biodiversity Theme	Very High

3.2 SPECIALIST ASSESSMENTS IDENTIFIED

Based on the above environmental sensitivities, within the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report as per the screening report:

- Agricultural Impact Assessment
- Landscape Impact Assessment
- Archaeological and Cultural Heritage Impact Assessment
- Paleontology Impact Assessment
- Terrestrial Biodiversity Impact Assessment
- Aquatic Biodiversity Impact Assessment
- Avian Impact Assessment
- Civil Aviation Assessment
- Defense Assessment
- RFI Assessment
- Geotechnical Assessment
- Socio-Economic Assessment
- Plant Species Assessment
- Animal Species Assessment

Therefore, this SSV report is compiled to determine confirm or dispute the sensitivities identified in the Screening Report and indicate whether Specialist Assessments or Compliance Statements for the abovementioned specialist studies are required for the proposed project moving forward.

4. RECEIVING ENVIRONMENT

4.1 CLIMATE

Sakhisizwe Local Municipality experiences a temperate interior climate that is strongly influenced by its location within the foothills of the Drakensberg Mountains and its varying topography. The municipality lies at elevations ranging from approximately 750 m to 2 600 m above sea level, resulting in climatic variation across the area. Higher-lying areas generally experience cooler temperatures and greater rainfall than the lower-lying western regions (Sakhisizwe Local Municipality, 2024).

The municipality experiences warm, wet summers and cold, dry winters, which are characteristic of the summer rainfall region of the Eastern Cape. Approximately 70 to 80% of the annual rainfall occurs during the summer months, mainly in the form of high-intensity convective thunderstorms that are occasionally accompanied by hail. Winter rainfall contributes only 20 to 30% of the annual total, with snowfall occurring periodically in the higher elevation areas during the winter months (Sakhisizwe Local Municipality, 2024). Rainfall distribution varies considerably across the municipality due to differences in altitude and topography. The higher eastern areas receive approximately 700–800 mm of rainfall annually, while the drier western areas receive between 200 mm and 300 mm per year.

4.2 TOPOGRAPHY AND HYDROLOGY

The proposed development area is located on gently undulating agricultural terrain. Elevations range from approximately 1 502 m to 1 508 m above mean sea level. The land gradually rises from the western portion of the site to a broad, gently rounded crest near the centre, before gradually sloping downward towards the eastern boundary. No steep slopes, ridges, or deeply incised drainage features are evident within the site.

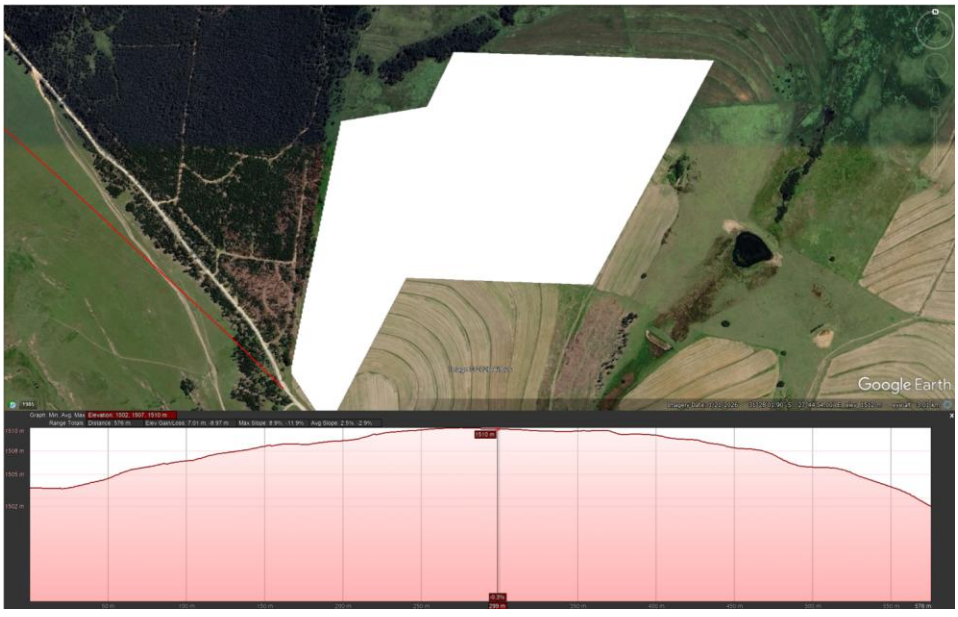


Figure 3. Topography at the proposed development site from East to West

4.3 GEOLOGY AND SOILS

The geology of the study area is predominantly underlain by mudstones and sandstones of the Tarkastad Subgroup and the Molteno Formation of the Karoo Supergroup, with intrusive Jurassic-age dolerite bodies also occurring throughout the area (Mucina & Rutherford, 2006). Soils derived from this sedimentary parent material are well drained, exceed 800 mm in depth and have a clay content ranging from 15% to 55%. These soils are predominantly represented by the Hutton, Clovelly, Griffin and Oatsdale soil forms. In areas underlain by dolerite, the dominant soil forms include the Balmoral, Shortlands and Vimy soil forms, which are generally characterised by higher clay contents and greater inherent fertility than soils developed on sedimentary parent material (Soil Classification Working Group, 2018). The study area is primarily associated with the Ac and Fa land types (Land Type Survey Staff, 2006). The Ac land type typically occurs on gently undulating plains and low hills where deep, well-drained apedal soils dominate. These soils have moderate to high agricultural potential and support extensive grassland vegetation, although productivity varies according to rainfall and management practices. The Fa land type is associated with terrain influenced by dolerite intrusions and comprises moderately deep to deep clay-rich soils with relatively high natural fertility. These land types also occur on gently sloping to undulating landscapes and support grazing and cultivated agriculture where climatic conditions are favourable. Variations in parent material, soil depth and clay content across the Ac and Fa land types influence drainage characteristics, vegetation composition, erosion susceptibility and overall land capability within the study area.

4.4 VEGETATION

According to SANBI[1] (Vegetation Map, updated in 2024) the site is located in Drakensberg Foothill Moist Grassland and the Tsomo grassland which form part of the Grassland biome (**Figure 4**). This vegetation also falls within the Sub-Escarpment Grassland Bioregion. The Drakensberg Foothill Moist vegetation type occurs around KwaZulu Natal and Eastern Cape provinces on gently undulating plains and foothills, while the Tsomo grassland occurs in the Queenstown basin in towns such as Tsomo, Cala and Engcobo. The vegetation is characterised by species-rich, mesic grassland dominated by perennial grasses, including *Themeda triandra, Tristachya leucothrix, Eragrostis curvula and Heteropogon contortus*. Forb diversity is typically high, particularly in areas that have experienced limited agricultural transformation. Woody vegetation is generally sparse and largely confined to drainage lines, rocky outcrops and sheltered slopes, where scattered shrubs and small trees may occur (Mucina & Rutherford, 2006; SANBI, 2018). The vegetation develops on moderately deep to deep, well-drained soils derived primarily from sandstone, mudstone and dolerite geology (Mucina & Rutherford, 2006).

[1] South African National Biodiversity Institute

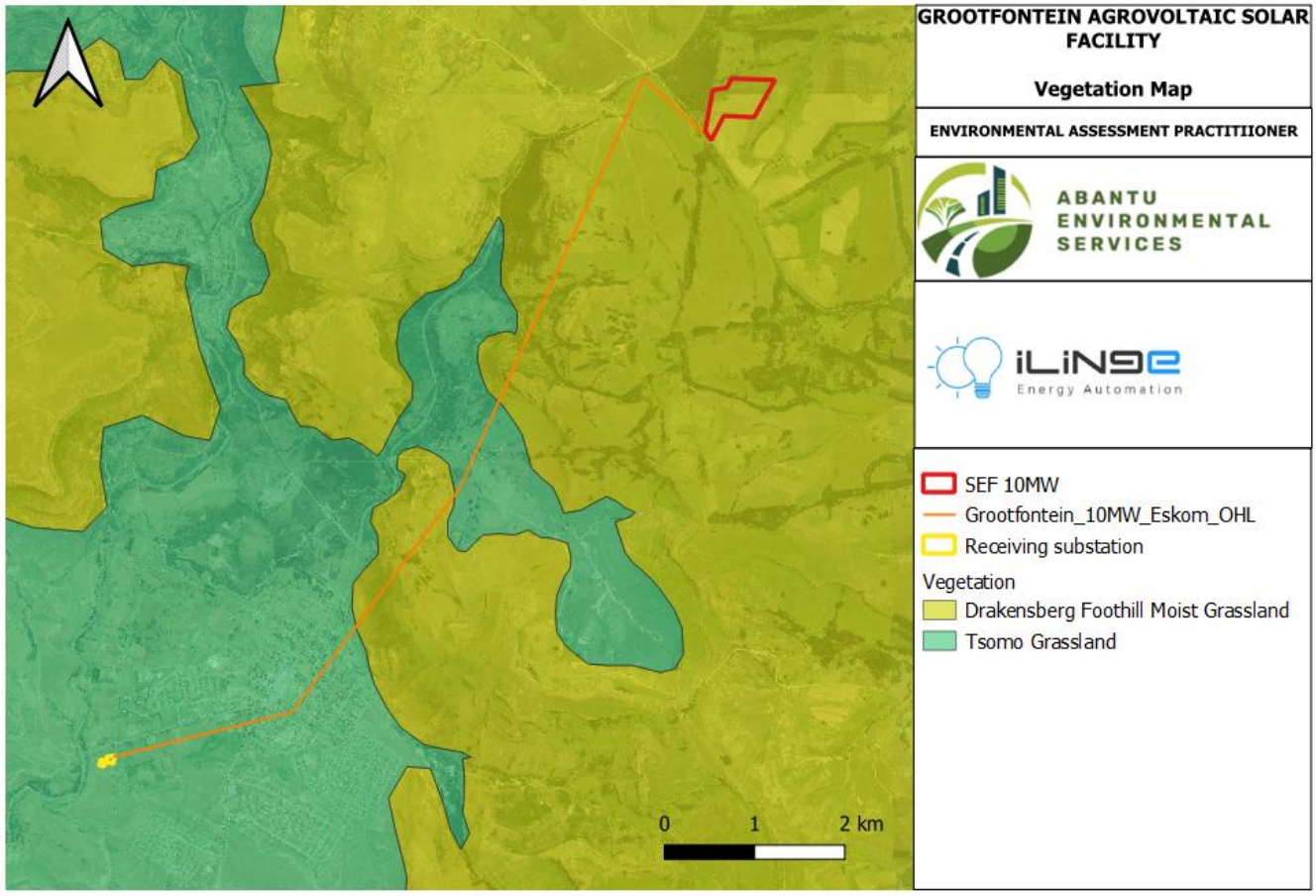


Figure 4. Vegetation map of the development site

Significant portions of the Drakensberg Foothill Moist Grassland have been transformed through cultivation, commercial forestry and livestock grazing, resulting in fragmentation and habitat loss. It is classified as Least Threatened with a conservation target of 23%. Only 2-3% of the vegetation is statutorily conserved in the uKhahlamba Drakensberg Park, Ntsikeni Wildlife Reserve as well as in the Karkloof, Mount Currie,Coleford, Fort Nottingham, Impendle, Ngeli, and Umgeni Vlei Nature Reserves. It is also threatened by alien woody species such as Black wattle (*Acacia dealbata*) (**Figure 5B**) and *Solanum mauritianum.*

The Tsomo grassland is classified as Least Concern with a conservation target of 23%. None of the vegetation is statutorily conserved, only 1% of the vegetation is conserved in private reserves. According to Mucina and Rutheford (2006) 27% of the vegetation has been transformed for cultivation and by dense concentrations of rural settlements. It is further threatened by the increased occurrence of alien *Schkuhria pinnata* and *Tagetes minuta* and high rates of erosion.

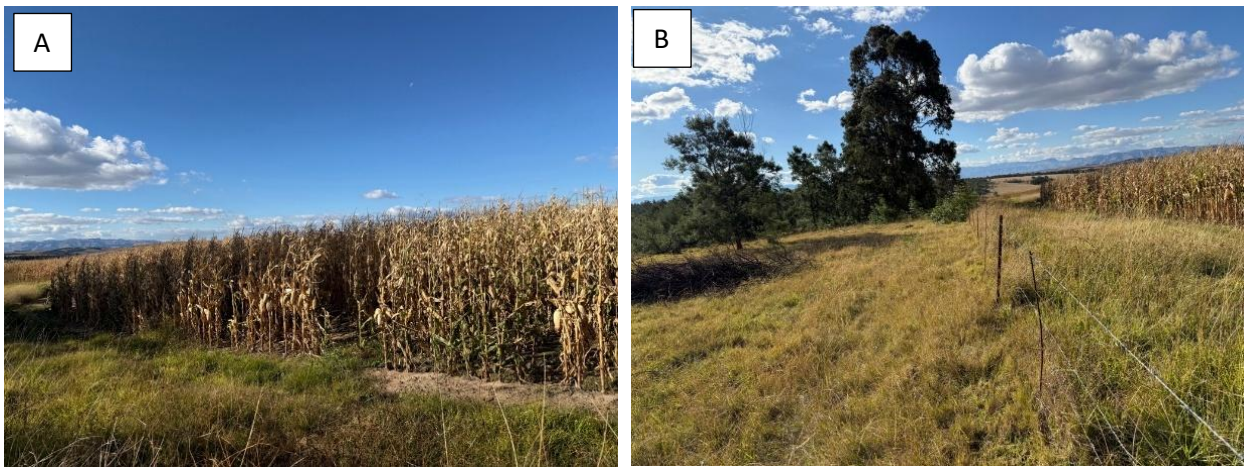


Figure 5. Vegetation conditions on site with dense Black wattle stands around the SEF.A – the crops grown on site. B- the Black wattle around the SEF.

4.4.1 SENSITIVITY VERIFICATION

4.4.4.1 PLANT SPECIES SENSITIVITY

According to the Screening Report, the plant sensitivity of the development sites is Medium for the SEF (**Figure 6**) and identifies the following sensitive species as potentially occurring within the site, these are outlined in **Table 8**. Although there are sensitive species identified on vegetation within the site has been significantly transformed as a result of ongoing agricultural activities, as illustrated in **Figure 5**. Consequently, the remaining indigenous vegetation is in a state of secondary succession, characterised by reduced biodiversity sensitivity compared to intact natural vegetation. The ecological sensitivity of the site is further reduced by the presence of dense stands of the invasive alien species, black wattle (*Acacia mearnsii*), which surrounds the site. The encroachment of this invasive species suppresses indigenous vegetation regeneration, alters habitat structure and contributes to a further decline in local biodiversity value.

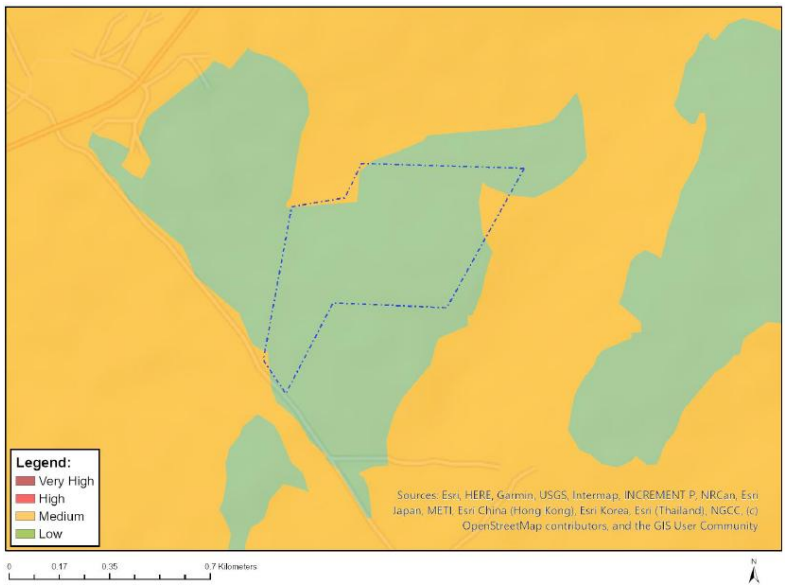


Figure 6. Terrestrial plant species sensitivity of the SEF.

Table 7. Sensitive Species identified by the NSTR.

Sensitivity	Features	Occurrence Likelihood
Medium	Sensitive species 1144	Unlikely

4.4.1.2 Terrestrial Biodiversity Sensitivity

According to the Screening Report, the terrestrial biodiversity sensitivity is Very High for the SEF (**Figure 7**). The SEF falls within an Ecological Support Area (ESA 2).

The proposed solar photovoltaic facility incorporates an agrovoltaic design, whereby agricultural activities will continue beneath and between the solar panel arrays. The site is already utilised for agricultural production and has consequently undergone significant anthropogenic transformation, resulting in the modification of the original vegetation and a reduction in ecological integrity. **The continuation of agricultural land use beneath the solar panels is expected to maintain the existing land use character and limit the scale of transformation. As a result, the terrestrial biodiversity sensitivity of the development footprint is considered to be Low.**

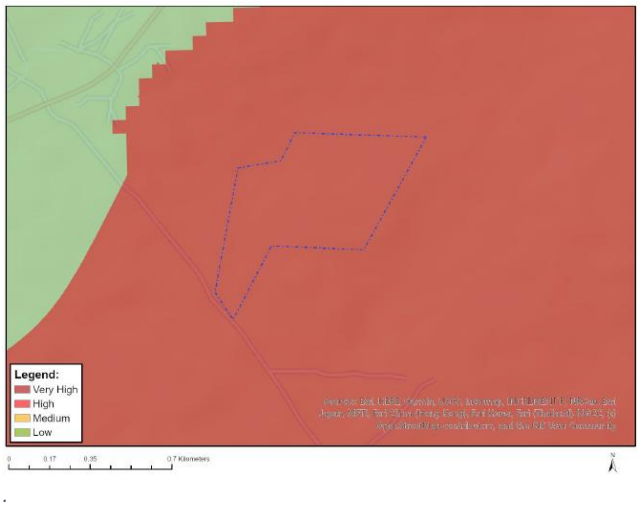


Figure 7. Terrestrial Biodiversity sensitivity identified by the NSTR

4.4.1.3 Animal Terrestrial Biodiversity

The animal sensitivity of the SEF (**Figure 8**) was identified as Medium due to the potential presence of the following animal species:

- *Mammalia-Hydrictis maculicollis*
- *Mammalia-Mystromys albicaudatus*

The proposed SEF is proposed on existing agricultural field. The receiving environment is likely to be devoid of suitable habitat for the species. Aquatic *spp* may be prevalent in watercourses/rivers, however, the proposed development poses no impacts to these habitats.

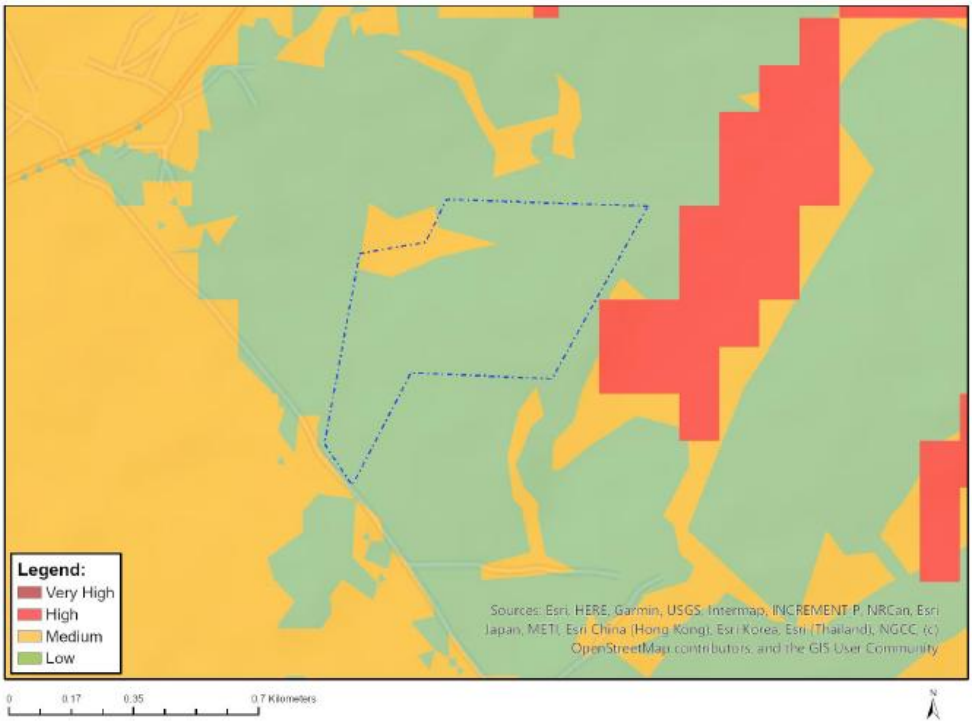


Figure 8. Animal Species Biodiversity sensitivity

4.5 HYDROLOGY

The project area is located in an aquatic ESA 1 according to the ECBCP, 2019 and the Screening Report. It is also located within Eastern Cape Drakensberg Strategic Water Source Area for Surface water and FEPA sub catchment. Strategic Water Source Areas are defined as areas that generate a disproportionately high volume of the country's surface water runoff relative to their size, they contribute around 50% of the nation's mean annual surface water runoff, making them critical for national water security, economic development, agricultural production and ecosystem functioning (Nel et al., 2017). The north and eastern boarders of the SEF area have two ephemeral drainage lines that drain into the NFEPA KuKowa river. The site also falls within the 500m buffer of a NFEPA wetland located on the along the eastern boarder of the proposed site (**Figure 9**).

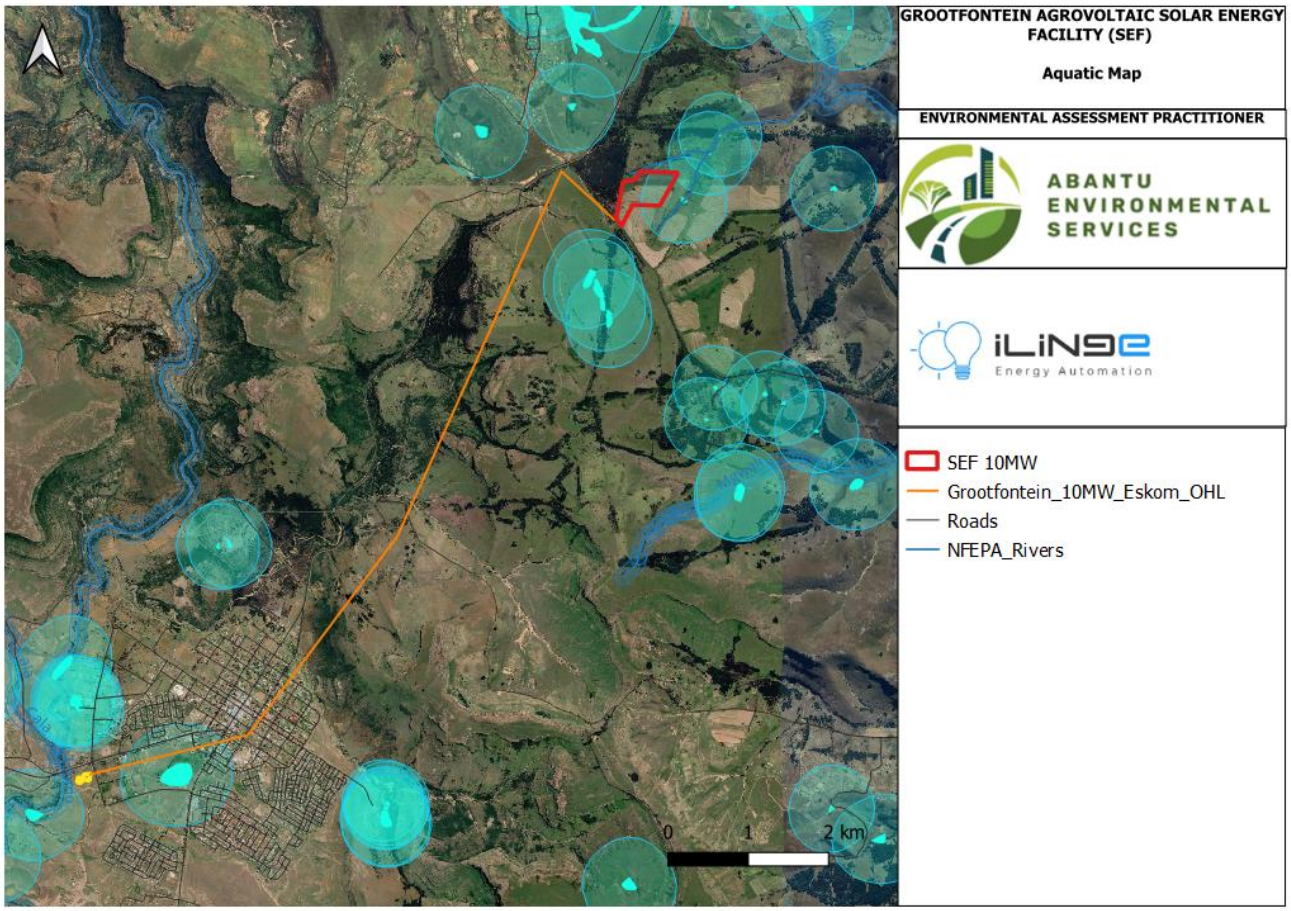


Figure 9. Aquatic map of the proposed development.

4.5.1 SENSITIVITY VERIFICATION

As reported in the Screening Report, the aquatic biodiversity sensitivity on the SEF is high (**Figure 10A**) which correlates with the site being designated ESA 1 (**Figure 10B**) and falling within the Eastern Cape Drakensburg SWSA for surface water. Additionally, the SEF encroaches a 100 buffer of a stream and a 500m buffer of a NFEPA wetland. Therefore, the High rating of the Screening tool is supported by this sensitivity report and a full aquatic study will be undertaken.



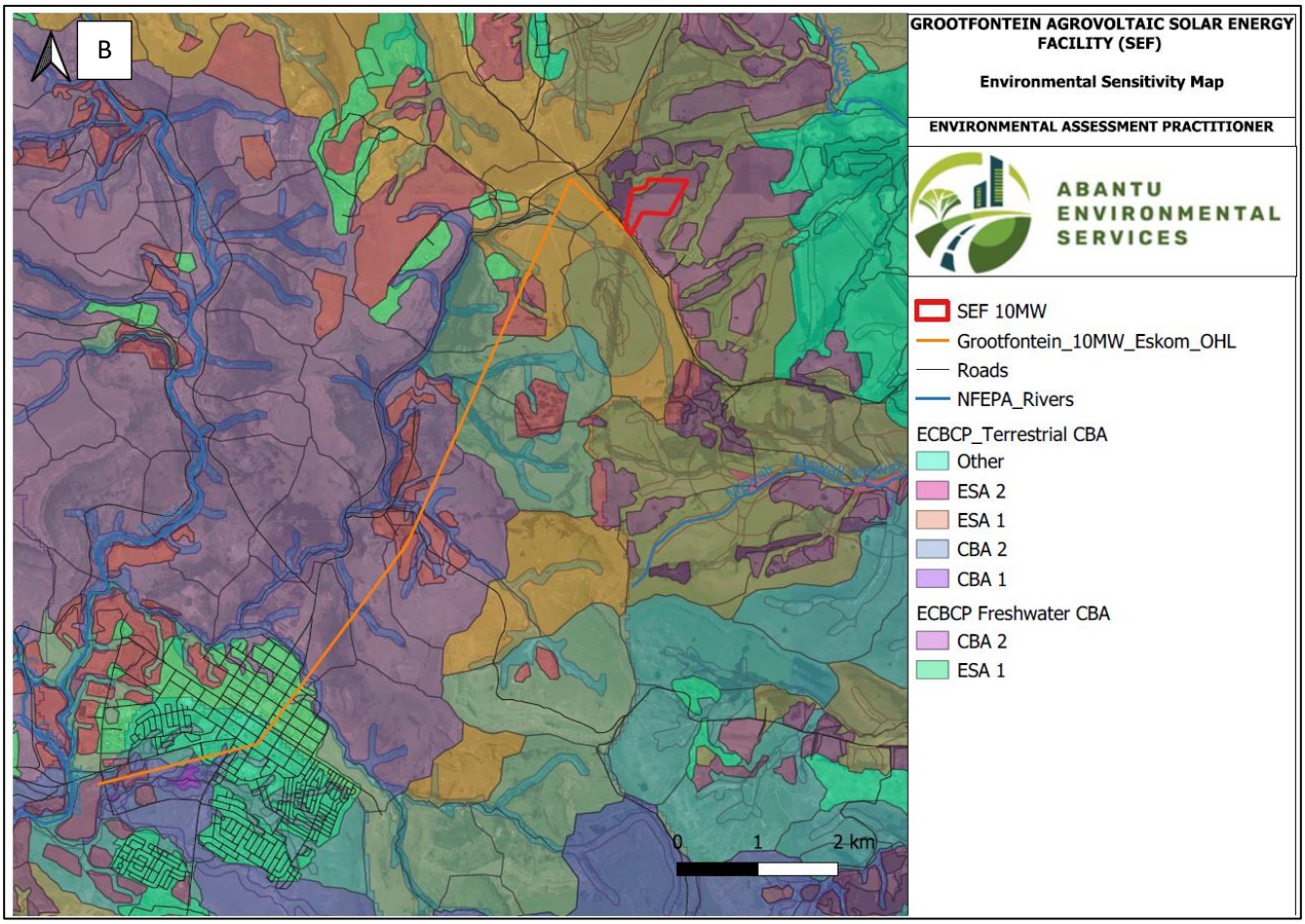


Figure 10. A- Aquatic Biodiversity of the proposed development site. B- Environmental sensitivity map of the development.

4.6 SOCIO-ECONOMIC ASPECTS

According to the SLM IDP, 202, the Sakhisizwe Local municipality is a Category B type e with largely rural (61%) and low revenue base. It is the smallest municipality of the six within the Chris Hani District Municiplaity and makes up for only 6% of the district. It is bordered by the Joe Gqabi District to the north, Intsika Yethu to the south, Engcobo to the east, and Emalahleni to the west. It is made up of the main town of Cala and Khowa, formerly known as Elliot, and dispersed rural villages and farms which result in high service delivery costs and unequal access to economic opportunities.

The municipality's IDP (2026) reports that the area is characterised by high levels of unemployment with the official rate of 38.8% (StatsSA,2022) and other socio-economic vulnerability. The economy is largely dependent on agriculture, public services and informal economic activities to supplement household income. These activities include retail trading through spaza shops and street vendors, the sale of fresh produce and livestock products, home based businesses such as hair salons, construction work and domestic services. According to StatsSA (2022) and SLM IDP (2024), limited formal employment opportunities have contributed to a high dependency ratio and increased reliance on government assistance.

Poverty remains widespread, with approximately 62.9% of the population living below the poverty line, while about 37.4% of households depend primarily on social grants for their livelihoods. Agriculture forms the backbone of the local economy and is the municipality's largest productive sector. Livestock farming and maize cultivation contribute significantly to employment and household income. Furthermore, the municipality faces infrastructure and services delivery challenges. Many communities do not have adequate road infrastructure, reliable water supply, sanitation and housing. These deficiencies constrain economic development, discourage private investments and increase the cost of doing business within the municipality (Eastern Cape Socio-Economic Consultative Council, 2023).

4.6.1 POPULATION

According to the Statistics South Africa Census 2022, Sakhisizwe Local Municipality has a total population of 63 981 people living in approximately 17 355 households, reflecting only marginal population growth since the 2011 Census (63 154 people). This indicates a relatively stable population, with an average annual growth rate of approximately 0.13%, suggesting limited in-migration and modest natural population growth (Statistics South Africa, 2024).

The municipality has a relatively youthful population, although demographic trends indicate gradual ageing. Approximately 30.4% of the population is younger than 15 years, 60.9% falls within the economically active age group (15–64 years), and 8.7% is aged 65 years and older. The relatively high proportion of economically active

residents presents opportunities for economic development; however, these are constrained by high unemployment and limited formal employment opportunities (Statistics South Africa, 2024).

The municipality has an average household size of 3.7 people per household, which indicates a decline from the previous census period and also reflecting changing household composition and demographic trends. Despite the stable population, the municipality continues to experience high dependency levels due to widespread unemployment and reliance on social grants, placing considerable pressure on municipal resources and social support systems (Statistics South Africa, 2024; Sakhisizwe Local Municipality, 2024).

4.6.2 HOUSING AND SERVICES

Housing within Sakhisizwe Local Municipality comprises a mixture of formal dwellings, traditional rural homesteads and informal housing structures. According to Statistics South Africa (2024), the majority of households reside in formal brick houses; however, a considerable proportion of the population, particularly in rural villages and traditional settlements, occupies traditional dwellings constructed from mud brick, stone or other locally available materials. Informal dwellings are generally concentrated around the urban centres of Cala and Khowa, where housing demand has exceeded the rate of formal residential development (Statistics South Africa, 2024).

The municipality continues to experience a housing backlog driven by population growth, limited municipal financial resources and ongoing rural-to-urban migration. Many low-income households remain on the waiting list for subsidized housing, while the dispersed settlement pattern increases the cost of providing housing and associated municipal infrastructure (Sakhisizwe Local Municipality, 2024).

Electricity is supplied primarily through the national grid operated by Eskom. Most households have access to electricity for lighting; however, electrification levels are generally lower in remote rural settlements. As a result, some households continue to rely on alternative energy sources such as firewood, paraffin and liquefied petroleum gas (LPG) for cooking and heating, increasing pressure on surrounding natural resources and exposing residents to indoor air pollution (Statistics South Africa, 2024).

4.6.3 ECONOMIC ASPECT

The municipality's economy is supported by agriculture, community services, trade, finance and government services. Agriculture remains a key land use across the municipality, particularly in the rural areas, contributing significantly to local employment and economic activity.

4.6.4 SENSITIVITY VERIFICATION

A significant proportion of the population is affected by poverty, with many households dependent on agriculture as a source of household income. These conditions highlight the vulnerability of local communities and the need for sustainable development interventions that can contribute positively to socio-economic upliftment.

The proposed Solar Energy Facility (SEF) is expected to make a positive contribution to the socio-economic development of the Sakhisizwe Local Municipality by creating employment opportunities, stimulating local economic activity and supporting South Africa's renewable energy objectives. During the construction phase, the project will generate temporary employment opportunities for local residents across a range of occupations, including civil works, electrical installation, security, transport, vegetation management and general labour. The procurement of goods and services from local suppliers, including accommodation, catering, fuel, plant hire and maintenance services is also expected to stimulate economic activity and support local businesses. The facility will provide permanent employment opportunities associated with the operation and maintenance of the solar infrastructure, security, vegetation management and site administration.

Importantly, the proposed facility incorporates an agrovoltaic design, allowing agricultural production to continue beneath and between the solar photovoltaic arrays. This approach supports the dual use of land by enabling renewable energy generation while maintaining agricultural activities, thereby reducing the permanent loss of productive agricultural land. Continued farming activities may assist in sustaining local livelihoods, preserving agricultural productivity and enhancing the long-term sustainability of land use

The anticipated socio-economic impacts are considered to be largely positive and localized in nature and are not expected to give rise to significant adverse effects that would warrant a detailed, standalone Socio-Economic Impact Assessment. The development is aligned with existing municipal objectives of promoting economic development, creating employment opportunities, strengthening infrastructure and encouraging sustainable investment while maintaining agricultural production. Based on the above, it is concluded that a separate Socio-Economic Impact Assessment will not be undertaken, as the potential impacts are considered to be of low significance, predominantly beneficial, and can be adequately addressed within the Basic Assessment report.

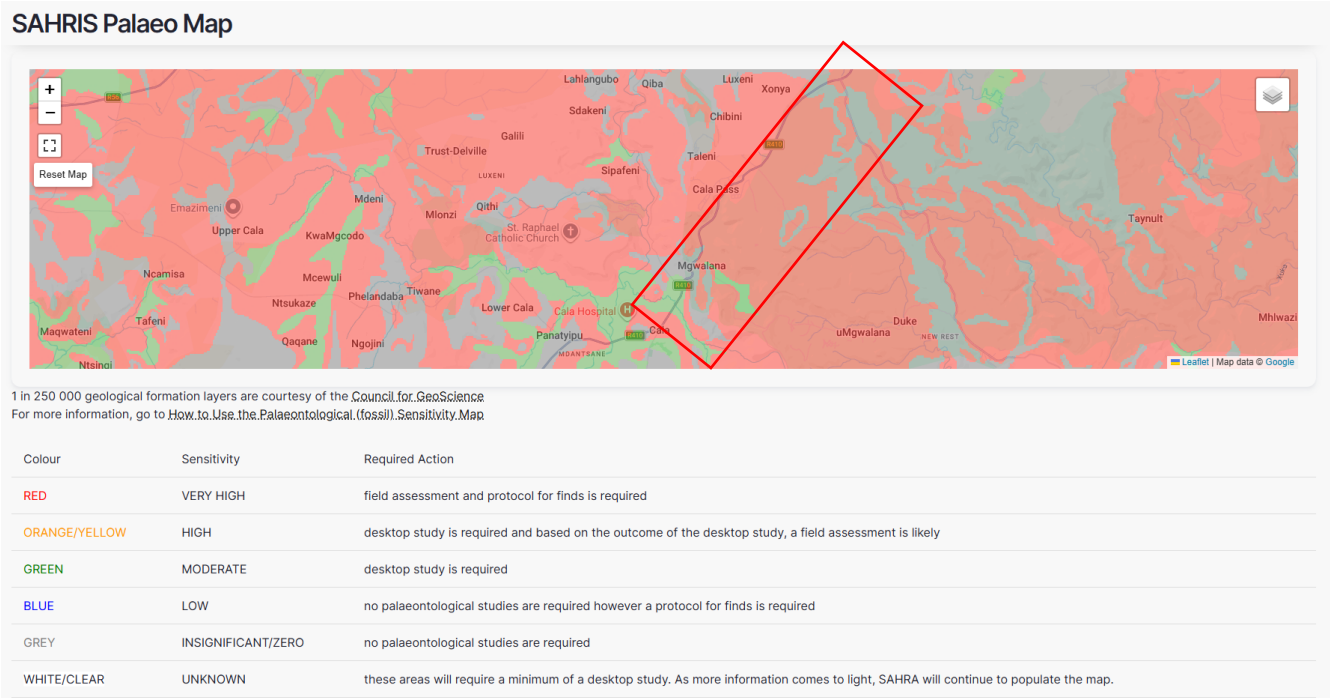
4.7 CULTURAL HERITAGE, PALAEONTOLOGIC, AND ARCHAEOLOGIC ASPECTS

According to the Screening Report, the development site has Very High paleontological sensitivity (**Figure 11**). The South African Heritage Resources Information System (SAHRIS) map (***Figure 12***) also shows that the sensitivity on palaeontological resources within the proposed SEF site is rated as Very High as a result of the presence of features

with very high paleontological sensitivity. The report further recommends a field assessment and protocol requirements be followed.



Figure 11. The paleontological sensitivity of the development site.



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
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Figure 12. SAHRIS Palaeo Map (SAHRIS, 2026).

The cultural heritage and archaeology theme has a sensitivity of Low (**Figure *13***). However, due the palaeontological theme a Cultural Heritage, Palaeontology, and Archaeology Impact Assessment will be undertaken.



Figure 13. Cultural Heritage sensitivity of the sites.

4.8 CURRENT LANDUSES

The SEF site is a cultivated agricultural field (**Figure *14***). The south-western boarder of the SEF is characterized by dense woody vegetation, identified as the Black wattle invasive species. There is an existing farm access road along the southern boarder of the SEF. The receiving station is located with the settlement of Cala.



Figure 14. The crops cultivated on the SEF site.

4.9 AGRICULTURE AND SENSITIVITY VERIFICATION

According to the National Screening Tool, the SEF site and the OHPL have a High agricultural sensitivity (**Figure 15**). This is because the development falls within the Elliot-Indwe Protected Agricultural Area (PAA) and on land used for subsistence farming. The original natural vegetation has largely been removed and replaced by agricultural fields, with the remaining vegetation comprising disturbed areas, secondary successional communities and invasive alien species. Furthermore, the proposed development incorporates an agrovoltaic design, allowing agricultural activities to continue beneath and between the solar arrays, thereby maintaining the existing agricultural land use.



Figure 15. Agriculture theme sensitivity.

This approach reduces the degree of land-use transformation by maintaining the site's agricultural function and supporting the continued productive use of the land (Dupraz et al., 2011; Amaducci et al., 2018). The retention of agricultural vegetation beneath and between the solar photovoltaic arrays contributes to soil conservation by reducing erosion, maintaining soil structure and limiting the extent of exposed bare ground (Amaducci et al., 2018). Furthermore, the shading provided by the solar panels may improve soil moisture retention, reduce evaporative water losses and create favourable microclimatic conditions for crops (Barron-Gafford et al., 2021).

4.10 AVIAN SENSITIVITY VERIFICATION

The proposed development site for the SEF presents a Very High avian sensitivity as per the Screening Report (**Figure *16***). The site is situated more than 20 km of a of known Cape Vulture restuarants sites and 50km of colonies. Thus the development is unlikely to pose any impacts to this theme, and therefore the sensitive has been revised to Medium. In accordance with EIA regulations, 2014 (as amended), cumulative impacts arising from the interaction of the existing and proposed infrastructure must also be considered. Therefore further assessment will be conducted.



Figure 16. Avian theme sensitivity.

4.11 DEFENSE AND SENSITIVITY VERIFICATION

The National Screening Tool classifies the Defense theme sensitivity of the proposed site as Low (***Figure 17***). Therefore, no further assessment will be required for the development.

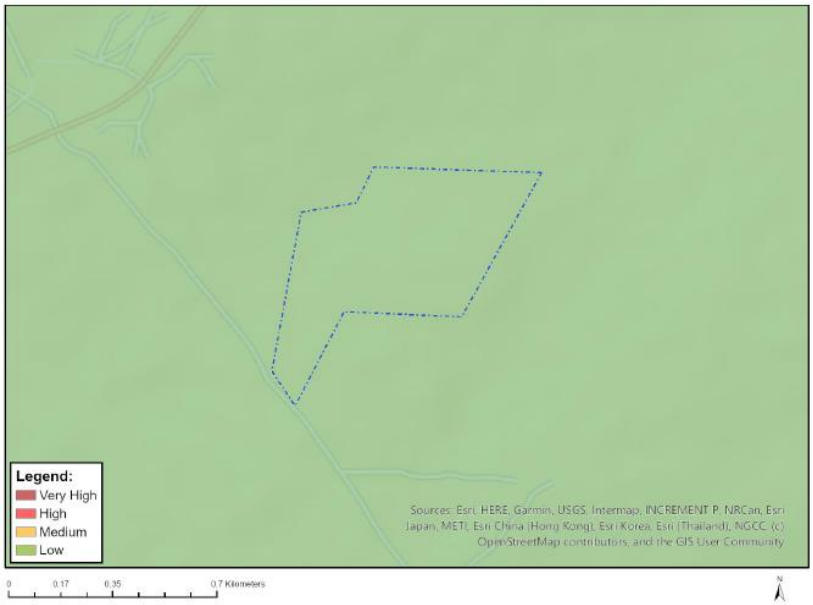


Figure 17. Defense theme sensitivity.

4.12 CIVIL AVIATION SENSITIVITY VERIFICATION

The NSTR rates the sensitivity of both the SEF and OHPL as Low (***Figure 18***) due to no major or other types of civil aviation aerodromes. Therefore, no further assessment will be required.

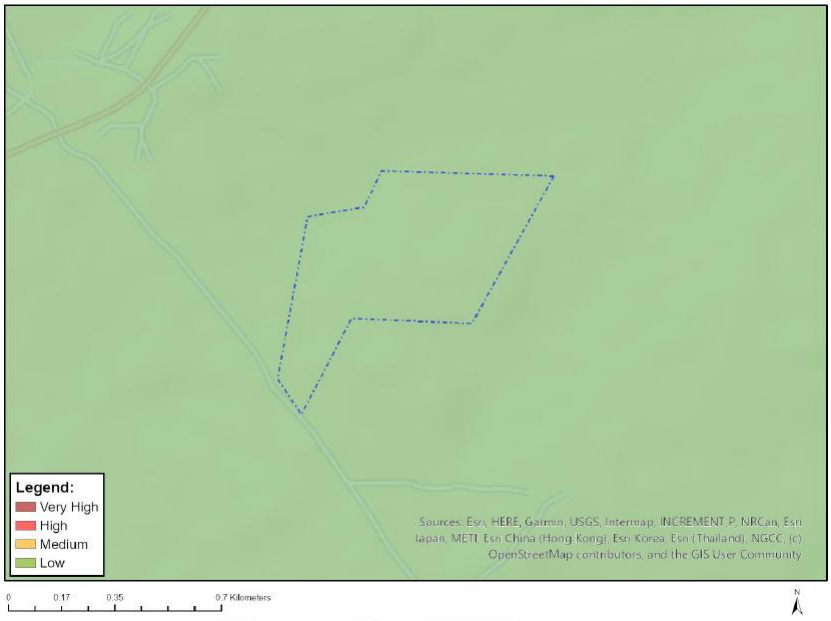


Figure 18. Civil aviation theme sensitivity.

4.13 LANDSCAPE SENSITIVITY VERIFICATION

The NSTR rates the landscape sensitivity of the SEF site as Very high (***Figure 19***) because the development is located between 500 and 1000m of a town or village. It is also located on mountain tops and high ridges, which are recognised as visually prominent landscape features with high scenic value and increased visibility from surrounding areas. Development on these landforms has the potential to result in significant visual intrusion and alteration of the natural landscape character. While this desktop classification is recognised, site observations indicate that the development footprint is located on land that has been extensively modified through long-term agricultural cultivation. The existing landscape is characterised by cultivated fields and contour farming rather than an intact natural landscape.

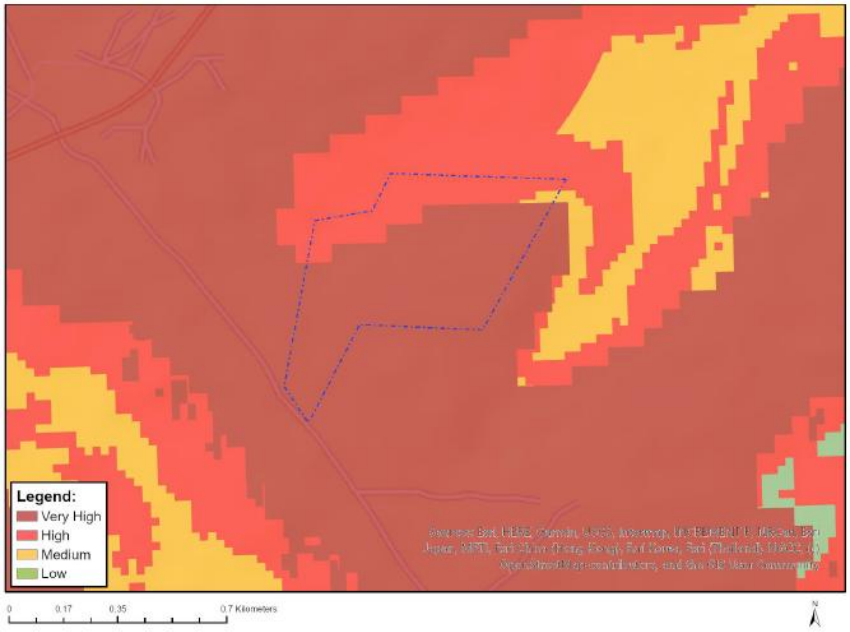


Figure 19. Landscape sensitivity of the SEF site identified by the NSTR.

Furthermore, the proposed agrovoltaic design will maintain the existing agricultural land use and landscape function, thereby reducing the degree of landscape transformation that would typically be associated with a conventional solar facility.

4.14 RFI SENSITIVITY VERIFICATION

The RFI theme sensitivity for the SEF site is rated as Low (***Figure 20***), as per the NSTR, therefore, no further assessment will be required.

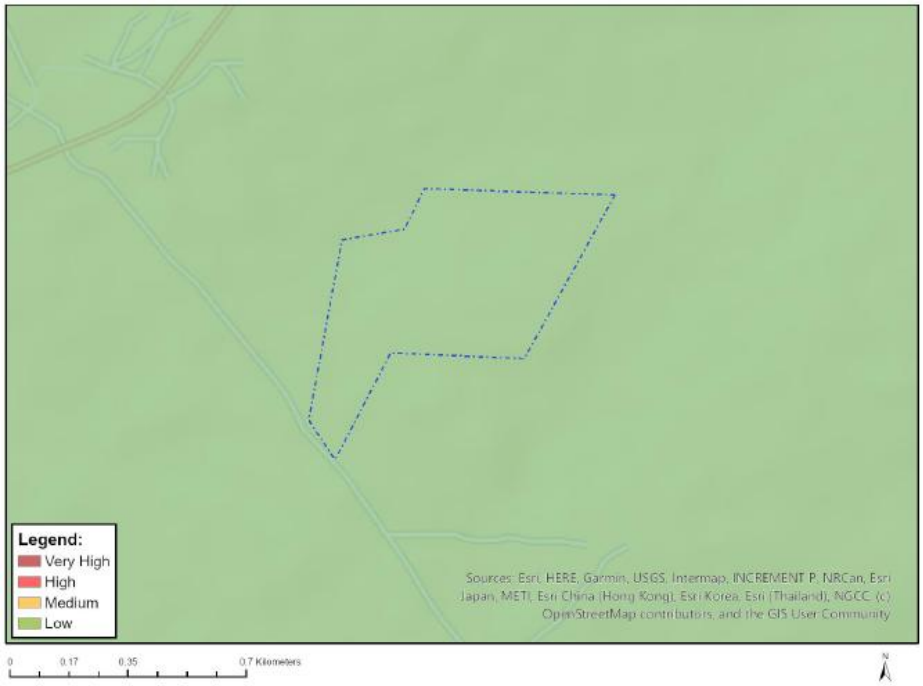


Figure 20. RFI sensitivity identified by the NSTR.

5. SITE CONDITIONS

The following illustrates the conditions and evidence of all the observed features on and around the site.

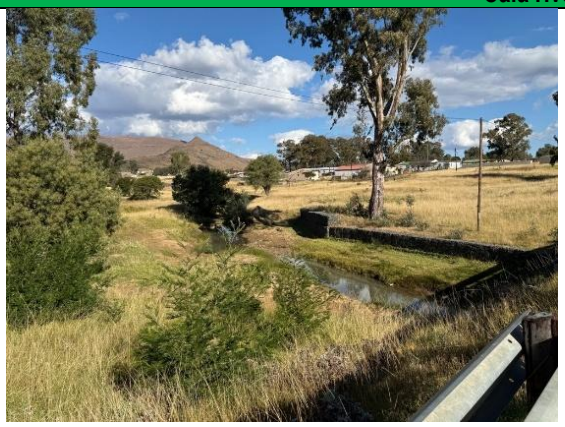
Table 8. Site conditions

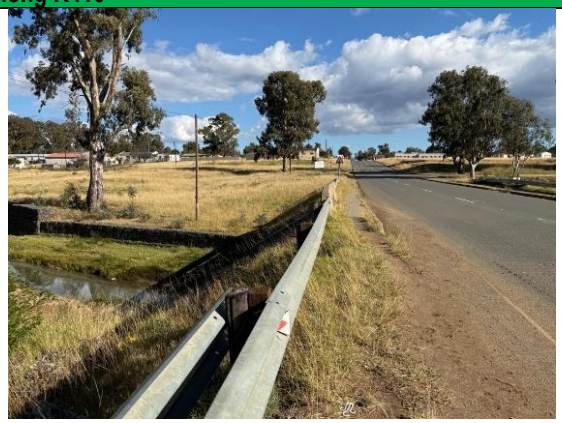
Dense Black Wattle stands around the SEF	
	
Access gravel road from the R410 road to the site	





Cala river along R410









6. CONCLUSION

An environmental screening site visit was undertaken on 24 May 2026. The purpose of the site visit was to gather enough information to develop a complete, comprehensive understanding of the receiving environment of the site, as understood from the desktop, and inform the project's environmental impact assessment process. This preliminary assessment forms the basis against which the environmental impact assessment phase will be conducted. This report also shows the levels of transformation and disturbances (cultivation, alien invasive species and transformation of indigenous vegetation) that have occurred on site.

From the site verification conducted, it is apparent that the SEF site has been transformed and is currently characterized with only cultivated crops being mainly maize and remnants of boundary secondary succession of indigenous vegetation and alien invasion around them facility. The design proposed is agrovoltaic, which will allow agricultural activities on the land to continue and maintain the same land use. This approach will limit the degree of land use transformation and support continued productive use of the land. The retention of agricultural activities underneath the solar panels will also contribute to soil conservation by reducing erosion, maintaining soil structure and limiting the extent of exposed bare ground. Furthermore, the shading provided by the solar panels may improve soil moisture retention, reduce evaporative water losses and create favourable microclimatic conditions for crops.
The verification of the identified sensitivities and recommended specialist concludes as indicated in the table below. Motivation has been included in cases where the identified specialist studies, as per the Screening Report, are not recommended by the EAP.

Table 9. Summary SSV and EAP recommendations regarding specialist assessments

Specialist studies identified as per Screening Report	Indication of whether studies will be conducted (Yes/No)	Motivation for any studies that will not be undertaken/ undertaken
Landscape/ Visual Impact Assessment	Yes	The National Screening tool rates the landscape sensitivity of the SEF as Very High as the site located between 500 and 1000m of a town and is on mountain tops and high ridges. However, site observations indicate that the site is actively cultivated agricultural land that has been substantially modified through long-term farming practices. In addition, the proposed agrovoltaic design will retain the existing agricultural land use beneath and between the solar panel arrays, which will reduce the degree of landscape transformation associated with the development.

Specialist studies identified as per Screening Report	Indication of whether studies will be conducted (Yes/No)	Motivation for any studies that will not be undertaken/ undertaken
Archaeological and Cultural Heritage, and Palaeontological Impact Assessment	Yes	The DFFE National Screening Tool rates the Archaeological and Cultural Heritage Impact as Low for the proposed development site. The DFFE National Screening Tool rates the Paleontological sensitivity as Very High and the SAHRIS map confirms the rating also as Very High and recommends a field assessment.
Terrestrial Biodiversity (including Plant and Animal Species) Impact Assessment	Yes	The proposed development falls within an ecosystem classified as Least Concern. The vegetation within the SEF site has been transformed for agricultural purposes and the DFFE National Screening Tool ranks the Plant sensitivity as Medium and identifies sensitive species that could potentially be found on site and must be protected. Terrestrial sensitivity is rated Very High for the SEF because they fall within CBA 1 and ESA 2. The Animal sensitivity is rated High for the OHPL as it transverses through undisturbed natural habitat, and Medium for the SEF site. Although the SEF has Very High sensitivity site conditions depicted otherwise.. In line with Duty of Care, a study shall be undertaken to ascertain such conditions and assess impacts
Aquatic Biodiversity Impact Assessment	Yes	The aquatic biodiversity sensitivity on the SEF is rated as High because the SEF falls within an ESA 1 and the Eastern Cape Drakensburg SWSA for surface water. Additionally, the SEF encroaches a 100 buffer of a stream and a 500m buffer of a NFEPA wetland. Therefore, a full aquatic assessment will be conducted.
Socio-Economic Assessment	No	The anticipated socio-economic impacts are considered to be largely positive and localised in nature, and are not expected to give rise to significant adverse effects that would warrant a detailed, standalone Socio-Economic Impact Assessment.
Avian	Yes	The SEF site is situated more than 20 km of a of known Cape Vulture restaurants sites and 50km of colonies. While the solar PV facility may result in habitat loss, disturbance, displacement of sensitive species and changes to bird movement and foraging patterns. In accordance with EIA regulations, 2014 (as amended), cumulative impacts arising from the interaction of the existing and proposed infrastructure must also be considered. Therefore, further assessment will be conducted as part of the Terrestrial Biodiversity Assessment not as a standalone since there is no overhead powerline under the scope.
Defense Theme	No	The National Screening Tool classifies the Defense theme sensitivity of the proposed site as Low. Therefore, no further assessment will be required for the development.
Civil Aviation	No	The NSTR rates the sensitivity of the SEF as Low due to no major or other types of civil aviation aerodromes around. Therefore, no further assessment is required.

Specialist studies identified as per Screening Report	Indication of whether studies will be conducted (Yes/No)	Motivation for any studies that will not be undertaken/ undertaken
Agricultural Impact Assessment	Yes	The NSTR indicates that the SEF site has a High agricultural sensitivity. This is because the development falls within the Elliot-Indwe Protected Agricultural Area (PAA) and on land actively used for subsistence farming. Although the proposed SEF incorporates an agrovoltaic design, allowing agricultural activities to continue beneath and between the solar photovoltaic arrays, the installation of solar infrastructure may still influence agricultural operations, soil resources, access to cultivated land, irrigation practices and long-term agricultural productivity. Therefore, a full agricultural assessment will be conducted.
RFI Assessment	No	The RFI theme sensitivity for the SEF site is rated as Low), as per the NSTR, therefore, no further assessment will be required
Geotechnical Assessment	Yes	To be conducted as part of the engineering studies.

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