2026

VISUAL IMPACT ASSESSMENT REPORT

VISUAL IMPACT ASSESSMENT FOR THE PROPOSED 10MW GROOTFONTEIN AGROVOLTAIC SOLAR ENERGY FACILITY (SEF), ON PORTION RE/1121 OF THE FARM GROOTE FONTEIN 1121WITHIN THE SAKHISIZWE LOCAL MUNICIPALITY (WARD 03), EASTERN CAPE PROVINCE.

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Report Revision No: 01
Date Issued: October 2026

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reference: Spamla, S. 2026 Visual Impact Assessment for the proposed 10MW Grootfontein Agrovoltaic Solar Energy Facility (SEF), on portion RE/1121 of the farm GROOTE FONTEIN 1121within the Sakhisizwe local municipality (ward 03), Eastern Cape province.

ACRONYMS, ABBREVIATIONS AND GLOSSARY

ACRONYMS & ABBREVIATIONS	
DEM	Digital Elevation Model
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EGI	Electricity Grid Infrastructure
GIS	Geographical Information Systems
HA	Hectares
MAMSL	Metres Above Mean Sea Level
NEMA	National Environmental Management Act (Act 107 of 1998)
REDZ	Renewable Energy Development Zones
SEF	Solar Energy Facility
STC	Standard Testing Conditons
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment
ZVI	Zone of Visual Influence
GLOSSARY	
Aesthetic impact	Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a Project proposal, should not be a threshold for decision making. Instead, a Project, by its visibility, must clearly interfere with or reduce (i.e., visual impact) the public's enjoyment and/or appreciation of the appearance of a valued resource e.g., cooling tower blocks a view from a National Park overlook (after New York, Department of Environment 2000).
Aesthetically significant place	A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, tens of thousands ofpeople visit Table Mountain on an annual basis. They come from around the country and even from around the world. By these measurements,one can make the case that Table Mountain (a designated National Park) is an aesthetic resource of national significance. Similarly, a resource thatis visited by large numbers who come from across the region probably has regional significance. A place visited primarily by people whose place of origin is local is generally of local significance. Unvisited places either have no significance or are "no trespass" places. (After New York, Department of Environment 2000).
Aesthetic Value	Aesthetic value is the emotional response derived from the experience of the environment with its natural and cultural attributes. The response can be either to visual or non-visual elements and can embrace sound, smell and any other factor having a strong impact on human thoughts, feelings, and attitudes (Ramsay, 1993). Thus, aesthetic value encompasses more than the seen view, visual quality, or scenery, and includes atmosphere, landscape character and sense of place (Schapper,

	1993).
Cumulative Effects	The summation of effects that result from changes caused by a development in conjunction with the other past, present, or reasonably foreseeable actions.
Landscape Character	The individual elements that make up the landscape, including prominent or eye-catching features such as hills, valleys, woods, trees, water bodies, buildings, and roads. They are generally quantifiable and can be easily described.
Landscape Impact	Landscape effects derive from changes in the physical landscape, whichmay give rise to changes in its character and how this is experienced (Institute of Environmental Assessment & The Landscape Institute 1996).
Project Footprint / Site	For the purposes of this report the Project *site* / *footprint* refers to the actual layout of the Project as described.
Sense of Place (genius loci)	Sense of place is the unique value that is allocated to a specific place or area through the cognitive experience of the user or viewer. *A genius locus literally means* 'spirit of the place'.
Sensitive Receptors	Sensitivity of visual receptors (viewers) to a proposed development.
Study area	For the purposes of this report this Project the study area refers to the proposed Project footprint / Project site as well as the 'zone of potential influence' (the area defined as the radius about the centre point of the Project beyond which the visual impact of the most visible features will be insignificant) which is a 5km radius surrounding the proposed Project footprint / site.
Viewshed analysis	The two-dimensional spatial pattern created by an analysis that defines areas, which contain all possible observation sites from which an object would be visible. The basic assumption for preparing a viewshed analysis is that the observer eye height is 1.8m above ground level.
Visibility	The area from which Project components would potentially be visible.Visibility depends upon general topography, aspect, tree cover or other visual obstruction, elevation, and distance.
Visual absorption capacity	Visual absorption capacity is defined as the landscape's ability to absorb physical changes without transformation in its visual character and quality. The landscape's ability to absorb change ranges from low- capacity areas, in which the location of an activity is likely to cause visual change in the character of the area, to high-capacity areas, in which the visual impact of development will be minimal (Amir & Gidalizon 1990).
Visual Exposure	Visibility and visual intrusion qualified with a distance rating to indicate the degree of intrusion and visual acuity, which is also influenced by weatherand light conditions.
Visual Impact	Visual effects relate to the changes that arise in the composition of available views because of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visual amenity available views because of changes to the landscape, to people's responses to the changes, and to the overall effects with respect to visualamenity.
Visual Intrusion	The nature of intrusion of an object on the visual quality of the environment resulting in its compatibility (absorbed into the landscape elements) or discord (contrasts with the landscape

	elements) with the landscape and surrounding land uses.
Worst-case Scenario	Principle applied where the environmental effects may vary, for example, seasonally or collectively to ensure the most severe potential effect isassessed.
Zone of Visual Influence	By determining the zone of visual influence, it is possible to identify the extent of potential visibility and views which could be affected by the proposed development. Its maximum extent is the radius around an object beyond which the visual impact of its most visible features will be insignificant primarily due to distance.

EXECUTIVE SUMMARY

Abantu Environmental Services (Pty) Ltd have been appointed by iLinge Energy Automation (Pty) Ltd as the independent environmental consultant to undertake all necessary procedures and processes required by the National Department of Forestry, Fisheries and the Environment (DFFE) and in terms of Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998) in order to obtain relevant environmental authorisation to proceed with the proposed development of the proposed 10MW Grootfontein Agrovoltaic Solar Energy Facility (SEF). The energy facility will be located on portion RE/1121 of the farm GROOTE FONTEIN 1121 within the Sakhisizwe local municipality (ward 03), Eastern Cape province.

Subsequent to this, Skyvision Geospatial Consulting (Pty) Ltd was appointed by Abantu Environmental Services (Pty) Ltd Consultants as a sub-consultant to undertake a Visual Impact Assessment (VIA) study, forming part of the Environmental Authorisation application process. The VIA is undertaken in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA) EIA Regulations (2014) to assess the potential visual impacts posed by the proposed 10MW Grootfontein Agrovoltaic Solar Energy Facility (SEF).

The applicant proposes to develop a 10MW Solar Energy Facility located at the Macangceni Village, approximately 9Km North of Cala Town in the Eastern Cape province. The site is predominantly open agricultural land consistent with the Agrovoltaic project concept. The are is immediately surrounded by planted forestry vegetation on a gently undulating landscape with an altitude of approximately 1450 mamsl. The proposed development will consist of the following components

- PV modules/ Agrovoltaic mounting Structures
- Inverter/Transformer station(s)
- Main On-site Substation Structures
- Switching Station
- Meteorological Mast
- O&M Building
- Laydown Are (Construction Phase)
- Perimeter Security Fencing
- Security Lighting/ CCTV poles
- 22Kv Overhead Line (OHPL) Poles

A total footprint area of approximately 23.5ha will be required for the construction of the PV Area, IPP switching station as well as the Eskom switching station. The development will have a total number of 40 250Kwac inverters adding up to a total of 10Mwac generation capacity. 17 793 Generic TSM-DE21-665 PV modules with a nominal output power of 665W each will be used giving the development a total PV nominal output power of 11, 832 kWp at Standard Testing Conditions (STC). The SEF will be connected to the grid via a 22Kv

(Approximately 1Km) overhead powerline from the proposed Eskom switching station to the OHL connection point using an existing 22Kv transmission line. This OHL will hereby connect the proposed substation at Macangceni to the existing Cala Substation.

As part of the authorisation process for the Solar Energy Facility (SEF), a Visual Impact Assessment (VIA) was conducted in accordance with the National Environmental Management Act (Act 107 of 1998) (NEMA) EIA Regulations (2014) for the proposed SEF development to determine the potential visual impacts that could arise from the development of the project on the surrounding environment. Skyvision Geospatial Consulting (Pty) Ltd has applied a series of quantitative modelling techniques to determine the potential magnitude and spatial distribution of the visual impacts. The approach adopted includes a characterisation of the project area in terms of its existing sense of place which is a critical factor in determining the relative influence that a PV solar development has on an area. Once the sense of place was established, the potential receptors within a 5-kilometre zone of influence were identified and categorised. Multiple viewsheds were then run to simulate and model the potential visibility of proposed infrastructure throughout the development area footprint within the project area boundary.

This VIA has determined that the visual character across much of the study area is of high conservation value, however, it has been disturbed by pre-existing transmission lines and cultivated agricultural plots hence resulting in a “rural agricultural” sense of place. Furthermore, the area has falls within the Eastern EGI corridor and Stomberg Wind REDz. Thus the introduction of the proposed Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and potentially planned developments for the region. Subsequently the SEAs conducted for the national powerline corridors and REDz promote holistic environmental site suitability analysis, which also caters for identifying sites which have the least visual impacts on scenic landscapes. This is observed with the strategic site selection of this proposed SEF development as the terrain of the site area, is characterised by greater terrain screening and visual containment.

In this VIA, the assessment has concluded that the proposed development would be of **Moderate significance** in visual impact during the construction phases of the project, with a **Low significance** post mitigation. While the potential visual impact would be of **Moderate significance** during the operational phase of the project, with a **Moderate significance** post mitigation. The decommissioning phase would be of **Low significance.**

Considering the location of the proposed development, the introduction of the Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and potentially planned developments for the region. Although this will not necessarily reduce impacts on the visual character of the area and the overall cumulative impacts on the landscape. Considering this, cumulative impacts have been rated as Moderate during the construction and operational phases of the project and Low with mitigation and Low during the decommissioning phase and Very Low with mitigation.

The proposed development will not unacceptably alter the current visual character of the landscape, hence authorisation approval is recommended with adherence to the following management and mitigation measures in the EMPr.

- Retain and maintain natural vegetation (if present) immediately adjacent to the development footprint.
- Ensure that vegetation cover adjacent to the development footprint (if present) is not unnecessarily removed during the construction phase, where possible.
- Restrict the activities and movement of construction workers and vehicles to the immediate development footprint and existing access roads.
- Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and then disposed regularly at licensed waste facilities.
- Screen the construction camp and laydown area yards by enclosing the entire area with a dark green or black cloth of no less than 2m height.
- Where possible, utilize existing screening features such as dense vegetation and topographical features to place the construction camps and lay-down yards out of the view of the R31 and R380 thoroughfare visual receptors.
- Reduce and control construction dust using approved dust suppression techniques as and when required (i.e., whenever dust becomes apparent).
- Reduce the construction period by ensuring that adequate resources are mobilised for the construction phase.
- Rehabilitate all disturbed areas (if present / if required) immediately after the completion of construction works.

- Limit the construction phase duration to a short term and in accordance with the project schedule.

APPENDIX 6: REQUIREMENTS FOR SPECIALIST STUDIES

The EIA Regulations, 2014 (R982 of 2014, as amended by R326 of 2017 and R517 of 2021), prescribes the required contents of a specialist report prepared in terms of the EIA regulations, 2014 (as amended). These requirements, and the sections of this VIA in which they are addressed is summarised in Table A-1

Table A-1: Required content of a specialist report

App 6	Item	Section
(a)(i)	Details of the specialist who prepared the report;	Page iv
(a) (ii)	Expertise of that specialist to compile a specialist report, including a curriculum vitae;	Page iv & Annexure D
(b)	A declaration that the specialist is independent in a form as may be specified by the competent authority;	Annexure C
(c)	An indication of the scope of, and the purpose for which, the report was prepared;	1.3
(cA)	An indication of the quality and age of base data used for the specialist report;	1.4
(cB)	A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change;	4.3.4
(d)	The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment;	1.5
(e)	A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	1.3; 4.2 & 4.3
(f)	Details of an assessment of the specific identified sensitivity of the site related to the proposed activity or activities and its associated structures and infrastructure, inclusive of a site plan identifying site alternatives;	4.3
(g)	An identification of any areas to be avoided, including buffers;	N/A
(h)	A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	N/A
(i)	A description of any assumptions made and any uncertainties or gaps in knowledge;	1.6
(j)	A description of the findings and potential implications of such findings on the impact of the proposed activity or activities;	4
(k)	Any mitigation measures for inclusion in the EMPr;	4.3.1 - 4.3.3 & 5
(l)	Any conditions for inclusion in the environmental authorisation;	4.3.1 – 4.3.3
(m)	Any monitoring requirements for inclusion in the EMPr or environmental authorisation;	4.3.1 – 4.3.3
(n) (i)	A reasoned opinion whether the proposed activity or portions thereof should be authorised;	5
(n) (iA)	A reasoned opinion regarding the acceptability of the proposed activity or activities;	5
(n) (ii)	If the opinion is that the proposed activity, activities or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan;	4.3.1 – 4.3.3

(o)	A description of any consultation process that was undertaken during the course of preparing the specialist report;	N/A
(p)	A summary and copies of any comments received during any consultation process and where applicable all responses thereto; and	N/A
(q)	Any other information requested by the competent authority.	N/A

TABLE OF CONTENTS

ACRONYMS, ABBREVIATIONS AND GLOSSARY ..... **iii**

EXECUTIVE SUMMARY ..... **vi**

APPENDIX 6: REQUIREMENTS FOR SPECIALIST STUDIES ..... **ix**

TABLE OF CONTENTS ..... **i**

LIST OF FIGURES ..... **iii**

LIST OF TABLES ..... **iii**

DECLARATION OF INDEPENDENCE ..... **iv**

1. INTRODUCTION **1**

1.1. Project Overview and Background 1

1.2. Project Description 2

1.2.1. Construction Methodology 3

1.3. Assessment Methodology 6

1.4. Data & Sources of Information 6

1.5. Fieldwork and Photographic Review 6

1.6. Assumptions and Limitations 7

2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES **7**

2.1. National Legislation and Guidelines 7

3. BASELINE DESCRIPTION OF THE RECEIVING ENVIRONMENT **8**

3.1. Determining the Baseline Environment 8

3.1.1. Topography 8

3.1.2. Vegetation 11

3.1.3. Land Use/Land Cover 13

3.2. Visual/Landscape Character 15

3.3. Visual Absorption Capacity 16

3.4. Sensitive Receptor Identification 17

4. RESULTS AND DISCUSSION **25**

4.1. Characterisation of Visual Impacts 25

4.1.1. Typical Visual Impacts Associated with Small Solar PV facilities 26

4.2. Visibility Analysis 28

4.3. Visual Impact Assessment 30

4.3.1. Construction Phase 30

4.3.2. Operational Phase 32

4.3.3. Decommissioning Phase 33

4.3.4. Cumulative Impacts in Relation to Project Developments 34

5. CONCLUSION AND RECOMMENDATIONS **36**

5.1. Conclusions 36

5.2. Recommendations 36
6. REFERENCES 38
ANNEXURE A: IMPACT ASSESSMENT METHODOLOGY 39
Impact Assessment Methodology 39
ANNEXURE B: Curriculum Vitae of Specialist 45

LIST OF FIGURES

Figure 1: Regional Locality Map 4
Figure 2: Infrastructure Layout Plan 5
Figure 3: Typical characteristic of the landscape 8
Figure 4: regional topography across the landscape 9
Figure 5: Slope Steepness across the landscape 10
Figure 6: Typical vegetation cover across the study area 11
Figure 7: Vegetation Type Classification 12
Figure 8: Observed land uses within the surrounding environment 13
Figure 9: Land Cover Classification 14
Figure 10: Existing transmission powerlines 15
Figure 11: Cala Mountain Pass Foothill View 16
Figure 12: VP1 – Corner of R56 and R410 facing south-east towards the Project Area 19
Figure 13: VP2 – R410 Cala Town entrance/exit at the foothill of the Cala Mountain Pass facing north towards the project Area 20
Figure 14: VP3 – Farm gate facing westwards towards the project Area 21
Figure 15: VP4 – Macangceni Village/R410 viewpoint facing east towards the project Area 22
Figure 16: VP5 – R58 viewpoint facing south towards the project Area 23
Figure 17: Identified receptor locations within 5km radius of the proposed development 24
Figure 18: Potential Visibility of the mining footprint 29
Figure 19: Cumulative Renewable Energy Projects And Transmission Powerlines Within a 30Km Buffer Zone. 35

LIST OF TABLES

Table A-1: Required content of a specialist report ix
Table 1-1: Proposed project components 3
Table 1-2: Data Sources 6
Table 4-1: Categorisation of Developments (adopted from Oberholzer, 2005) 25
Table 4-2: Categorisation of Expected Visual Impacts (adopted from Oberholzer, 2005) 26
Table 4-3: Impact Rating for the Proposed SEF during the Construction Phase 30
Table 4-4: Impact Rating for the Proposed Solar Facility During the Operational Phase 32
Table 4-5: Impact Rating for the Proposed Solar Facility During the Decommissioning Phase 33

DECLARATION OF INDEPENDENCE

I, **Sinenjongo Spamla**, in my capacity as a GIS & Remote Sensing and Visual Impact Assessment specialist, hereby declare that I:

- Acted as an independent specialist in this study.
- Undertook this study in an objective and professional manner and there were no circumstances which compromised my objectivity in performing such work.
- Do not have any personal, business or financial interests related to the approval of the proposed project.
- Undertake to disclose to the applicant and relevant authorities any information that has or may have the potential to influence any decision to be taken with respect to this report by the applicant and or relevant authorities.
- All particulars provided in this report are true and correct.



Sinenjongo Spamla (MSc Env Sc; Pr. Sci.Nat; GISSA) ***12 October 2026***

Findings, recommendations and conclusions are based on the best available scientific methods and the author's professional knowledge at the time of compilation. Additional information may become known or available at a later stage of the process for which no allowance could have been made at the time of this study. No form of this report may be altered in any manner or form for any purpose without the specific and written consent of the specialist as specified above. Any recommendations, statements or conclusions drawn from or based on this report must clearly cite or make reference to this report in its entirety.

1. INTRODUCTION

1.1. Project Overview and Background

The applicant proposes to develop a 10MW Solar Energy Facility located at the Macangceni Village, approximately 9Km North of Cala Town in the Eastern Cape province. The site is predominantly open agricultural land consistent with the Agrovoltaic project concept. The area is immediately surrounded by planted forestry vegetation on a gently undulating landscape with an altitude of approximately 1450 mamsl. The proposed development will consist of the following components

- PV modules/ Agrovoltaic mounting Structures
- Inverter/Transformer station(s)
- Main On-site Substation Structures
- Switching Station
- Meteorological Mast
- O&M Building
- Laydown Are (Construction Phase)
- Perimeter Security Fencing
- Security Lighting/ CCTV poles
- 22Kv Overhead Line (OHPL) Poles

As part of the authorisation process for the PV Solar Facility, a Visual Impact Assessment (VIA) was conducted in accordance with the National Environmental Management Act (Act 107 of 1998) (NEMA) EIA Regulations (2014) for the proposed SEF development to determine the potential visual impacts that could arise from the development of the project on the surrounding environment. Skyvision Geospatial Consulting (Pty) Ltd has applied a series of quantitative modelling techniques to determine the potential magnitude and spatial distribution of the visual impacts. The approach adopted includes a characterisation of the project area in terms of its existing sense of place which is a critical factor in determining the relative influence that a PV Solar facility an area. Once the sense of place was established, the potential receptors within a 5-kilometre zone of influence were identified and categorised. Multiple viewsheds were then run to simulate and model the potential visibility of proposed infrastructure throughout the development area footprint within the project area boundary.

This VIA has determined that the visual character across much of the study area is of high conservation value, however, it has been disturbed by pre-existing transmission lines and cultivated agricultural plots hence resulting in a “rural agricultural” sense of place. Furthermore, the area has falls within the Eastern EGI corridor and Stomberg Wind REDz. Thus the introduction of the proposed Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and

potentially planned developments for the region. Subsequently the SEAs conducted for the national powerline corridors and REDz promote holistic environmental site suitability analysis, which also caters for identifying sites which have the least visual impacts on scenic landscapes. This is observed with the strategic site selection of this proposed SEF development as the terrain of the site area, is characterised by greater terrain screening and visual containment.

In this VIA, the assessment has concluded that the proposed development would be of **Moderate significance** in visual impact during the construction phases of the project, with a **Low significance** post mitigation. While the potential visual impact would be of **Moderate significance** during the operational phase of the project, with a **Moderate significance** post mitigation. The decommissioning phase would be of **Low significance.**

Considering the location of the proposed development, the introduction of the Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and potentially planned developments for the region. Although this will not necessarily reduce impacts on the visual character of the area and the overall cumulative impacts on the landscape. Considering this, cumulative impacts have been rated as Moderate during the construction and operational phases of the project and Low with mitigation and Low during the decommissioning phase and Very Low with mitigation.

This VIA focuses on a pre-defined footprint where the project will have the greatest impact. This area is defined as a Zone of Visual Influence (Figure 1).

1.2. Project Description

The applicant proposes to develop a 10MW Solar Energy Facility located at the Macangceni Village, approximately 9Km North of Cala Town in the Eastern Cape province. The site is predominantly open agricultural land consistent with the Agrovoltaic project concept. The area is immediately surrounded by planted forestry vegetation on a gently undulating landscape with an altitude of approximately 1450 mamsl. The proposed development will consist of the following components

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- 22Kv Overhead Line (OHPL) Poles

A total footprint area of approximately 23.5ha will be required for the construction of the PV Area, IPP switching station as well as the Eskom switching station. The development will have a total number of 40 250Kwac inverters adding up to a total of 10Mwac generation capacity. 17 793 Generic TSM-DE21-665 PV modules with a nominal output power of 665W each will be used giving the development a total PV nominal output power of 11, 832 kWp at Standard Testing Conditions (STC). The SEF will be connected to the grid via a 22Kv (Approximately 1Km) overhead powerline from the proposed Eskom switching station to the OHL connection point using an existing 22Kv transmission line. This OHL will hereby connect the proposed substation at Macangceni to the existing Cala Substation.

Each project component and activity will affect the receiving environment differently and is therefore discussed separately. The following project components are anticipated to occur during the construction and operational phases of the project and are identified as elements that may cause a potential landscape and/or visual impact:

1.2.1. Construction Methodology

- Site Clearance
- Construction/maintenance of access roads
- Pegging and Erection of plant area structures (PV modules, Tracking Mounts, etc.)
- Construction of laydown areas and O&M buildings

Table 1-1: Proposed project components

Infrastructure/Activity	Area (Ha)
PV Plant Area	22.2 ha (3.5m)
IPP Switching Station	0.76 ha (10m)
Eskom Switching Station	0.5ha (10m)
Eskom 22Kv OHL	1Km (11m)

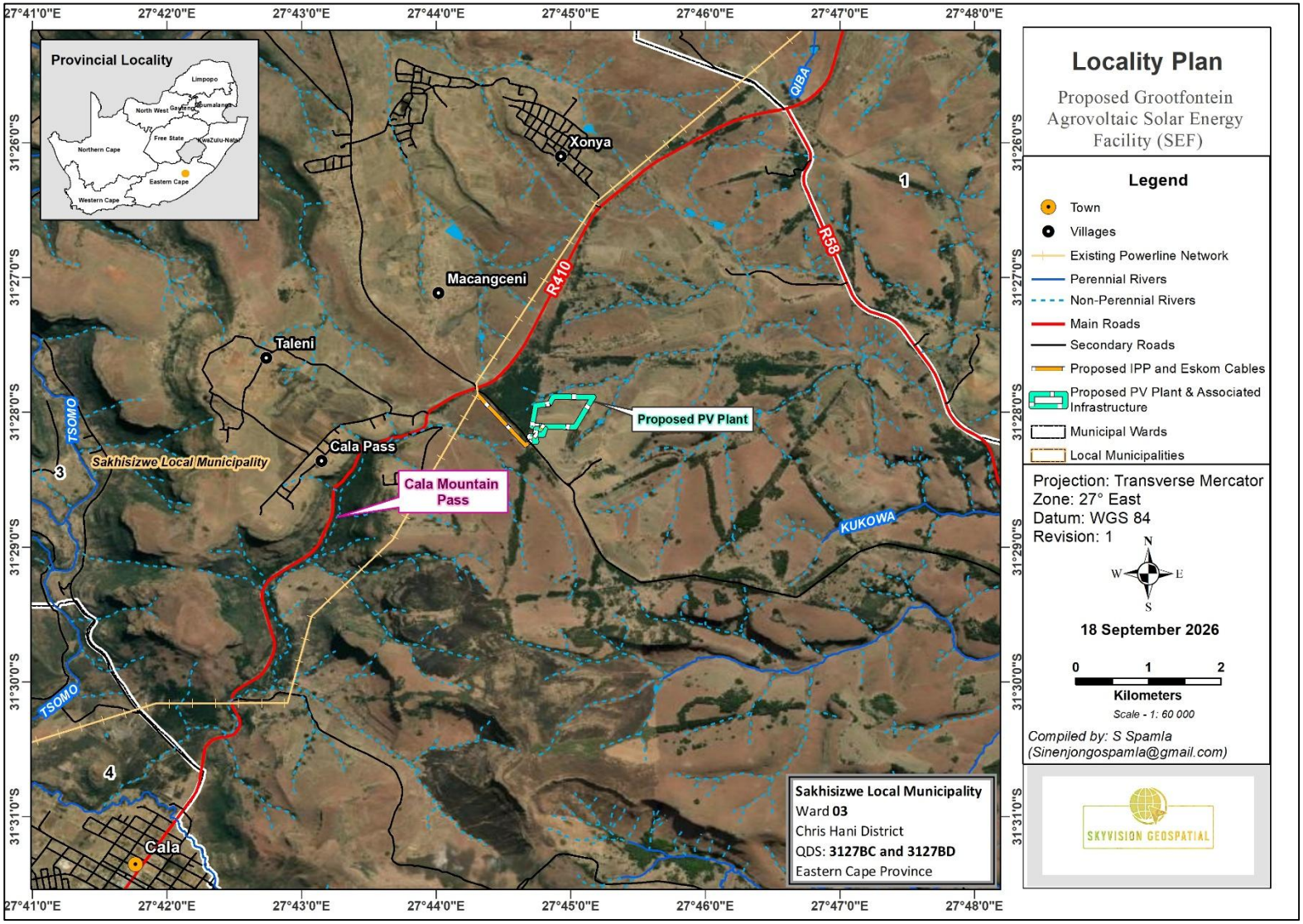


Figure 1: Regional Locality Map

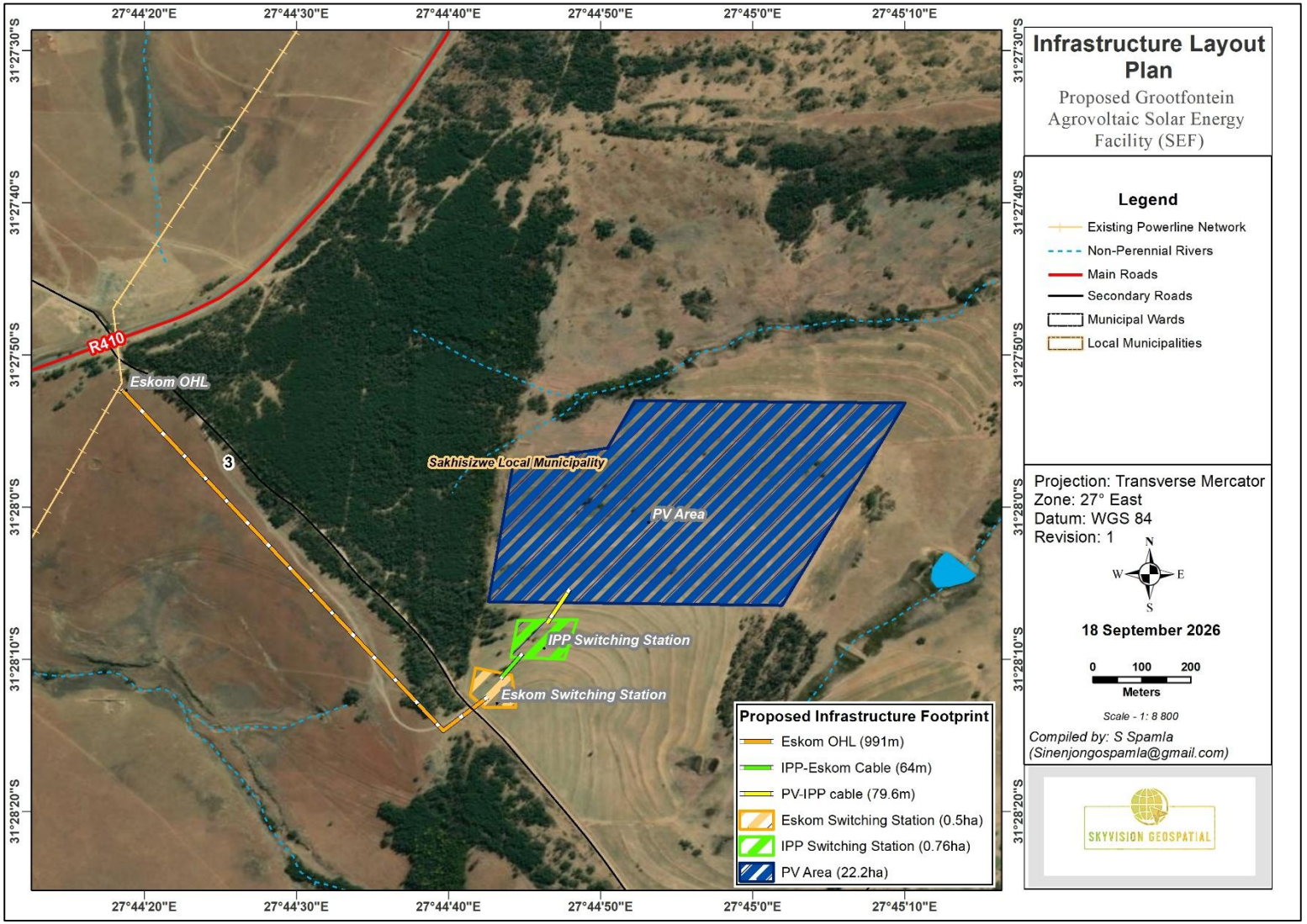


Figure 2: Infrastructure Layout Plan

1.3. Assessment Methodology

This VIA is being undertaken as part of the EIA process. The aim of the VIA is to identify potential visual impacts associated with the development of the proposed solar energy facility, as well as to determine the potential extent of the visual impacts. This will be achieved by determining the character of the visual environment and identifying areas of potential visual sensitivity that may be subject to visual impacts. The visual assessment focuses on the potentially sensitive visual receptor locations and provides an assessment of the magnitude and significance of the visual impacts associated with the project.

The above will be achieved through the following scope and objectives:

- Description of the visual baseline, providing the landscape character of the study area;
- Identification of visual receptor locations and routes that are sensitive and/or potentially sensitive to the visual intrusion of the proposed project;
- Fieldwork assessment to conduct a photographic survey of the study area; and to verify the landscape character and the sensitivity of the identified visual receptors;
- Assess visual sensitivity of the project by determining the potential visibility (viewshed analysis) of the different elements of the project;
- Determine the potential extent and rate the significance of the visual impacts;
- Assess the cumulative visual impacts in relation to other existing and proposed grid connection projects in the area.

1.4. Data & Sources of Information

The datasets used in this assessment are listed in Table 1-2 below.

Table 1-2: Data Sources

Data Type	Source	Date Published
Elevation Data	ALOS Global Digital Surface Model (World 3D – 30m)	2021
Project Description	Client Provided	2025
Land Cover	South African National Land Cover (SANLC)	2022
Protected Areas	South African Protected Areas Database (SAPAD)	Incremental Release (Q1, 2024)
Vegetation	Mucina & Rutherford: Vegetation Map of South Africa, Lesotho and Swaziland.	2018

1.5. Fieldwork and Photographic Review

A site visit was undertaken on 11 September 2026. The weather conditions for the site visit were clear. The weather and atmospheric conditions were suitable for the collection of sufficient photographs and the necessary visual observations.

1.6. Assumptions and Limitations

- Given the nature of the receiving environment and the height of the proposed mining development infrastructure, the study area is assumed to encompass an area of 5 km from the route alignment. This limit on the visual assessment zone relates to the fact that visual impact decreases exponentially over distance. Thus, although the mining operation may still be visible beyond 5 km, the degree of visual impact will diminish considerably. As such, the need to assess the impact on potential receptors beyond this distance would not be warranted.
- It should be noted that the fieldwork for this study was undertaken in September 2026, a period which is characterised by pleasantly warm and sunny weather conditions.
- Terrain data and Digital Elevation Model (DEM) used to generate the viewshed(s) and visibility analysis conducted in respect of the solar energy facility, is derived from the ALOS Global Digital Surface Model (AW3D30) data which is fairly coarse, may be inconsistent and outdated in some places.
- The viewshed / visibility analysis does not consider any existing vegetation cover or built infrastructure which may screen views of the PV plant along with the evacuation line and its pylons. This analysis should therefore be seen as a conceptual representation or a worst-case scenario.

2. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

2.1. National Legislation and Guidelines

At National level, the following legislative documents apply to the visual assessment protocol.

National Environmental Management Act (Act 107 of 1998), EIA Regulations

The specialist report is in accordance with the specification on conducting specialist studies as per Government Gazette (GN) R 982 of the NEMA Act 107 of 1998. The mitigation measures as stipulated in the specialist report can be used as part of the Environmental Management Programme (EMPr) and will be in support of the EIA and Appendix 6 of the EIA Regulations 2014.

Western Cape Department of Environmental Affairs & Development Planning: Guideline for Involving Visual and Aesthetic Specialists in EIA Processes Edition 1 (CSIR, 2005)

The guidelines provide guidance that is appropriate for any EIA process. The Guideline document also seeks to clarify instances when a visual specialist should get involved in the EIA process.

3. BASELINE DESCRIPTION OF THE RECEIVING ENVIRONMENT

3.1. Determining the Baseline Environment

The determination of the baseline environment is critical in characterising the existing sense of place for the study area. The sense of place comprises of the landscape's topography, vegetation and the land use & land cover of the environment.

3.1.1. Topography

The general landscape of the surrounding area is characterised by a gently undulating terrain dominated by the Drakensberg Foothill Moist Grassland vegetation, with sparsely distributed trees. The elevation in the vicinity ranges between approximately 1 420 – 1 500m. Slopes across the study area relatively flat with gradual undulations, resulting in the landscape having an undulating landscape characteristic. Maps showing the topography and slopes in the study area are provided in Figure 4 and Figure 5.



Figure 3: Typical characteristic of the landscape

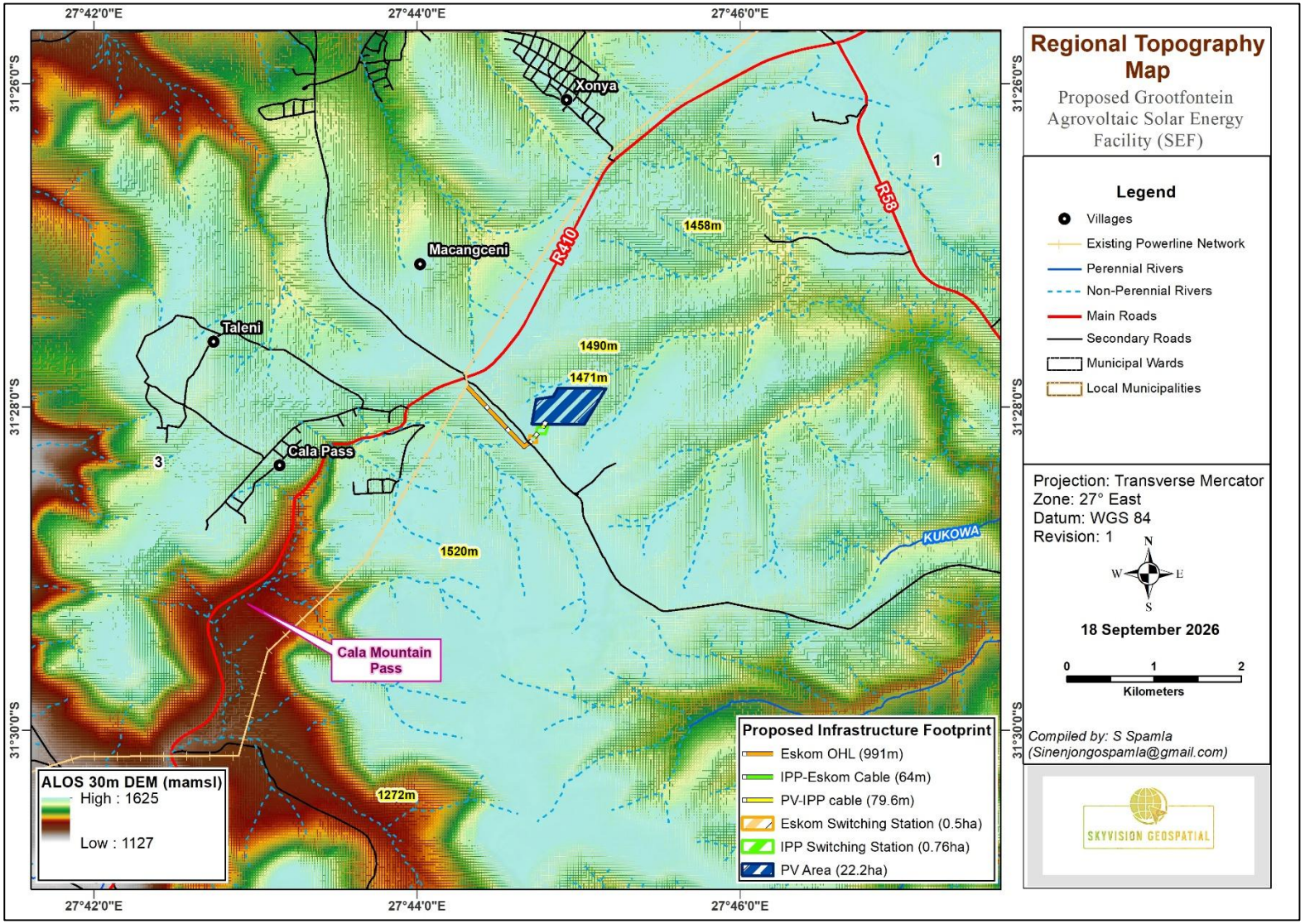


Figure 4: regional topography across the landscape

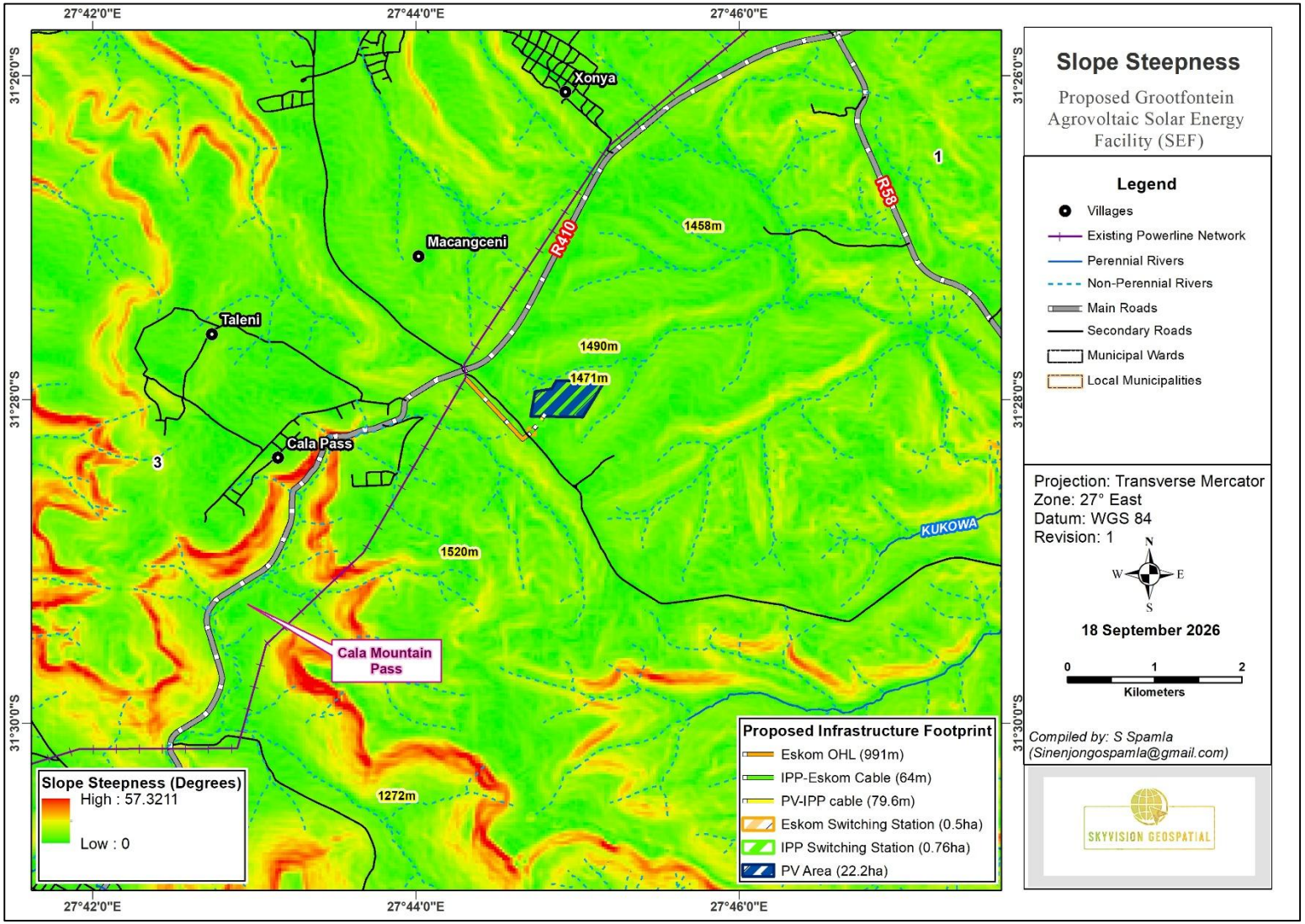


Figure 5: Slope Steepness across the landscape

3.1.2. Vegetation

According to Mucina and Rutherford (2018), the project area is predominantly covered by Drakensberg Foothill Moist Grassland vegetation types (Figure 7). However, it was observed that the project area is also nestled immediately adjacent to a substantially large forestry vegetation.



Figure 6: Typical vegetation cover across the study area

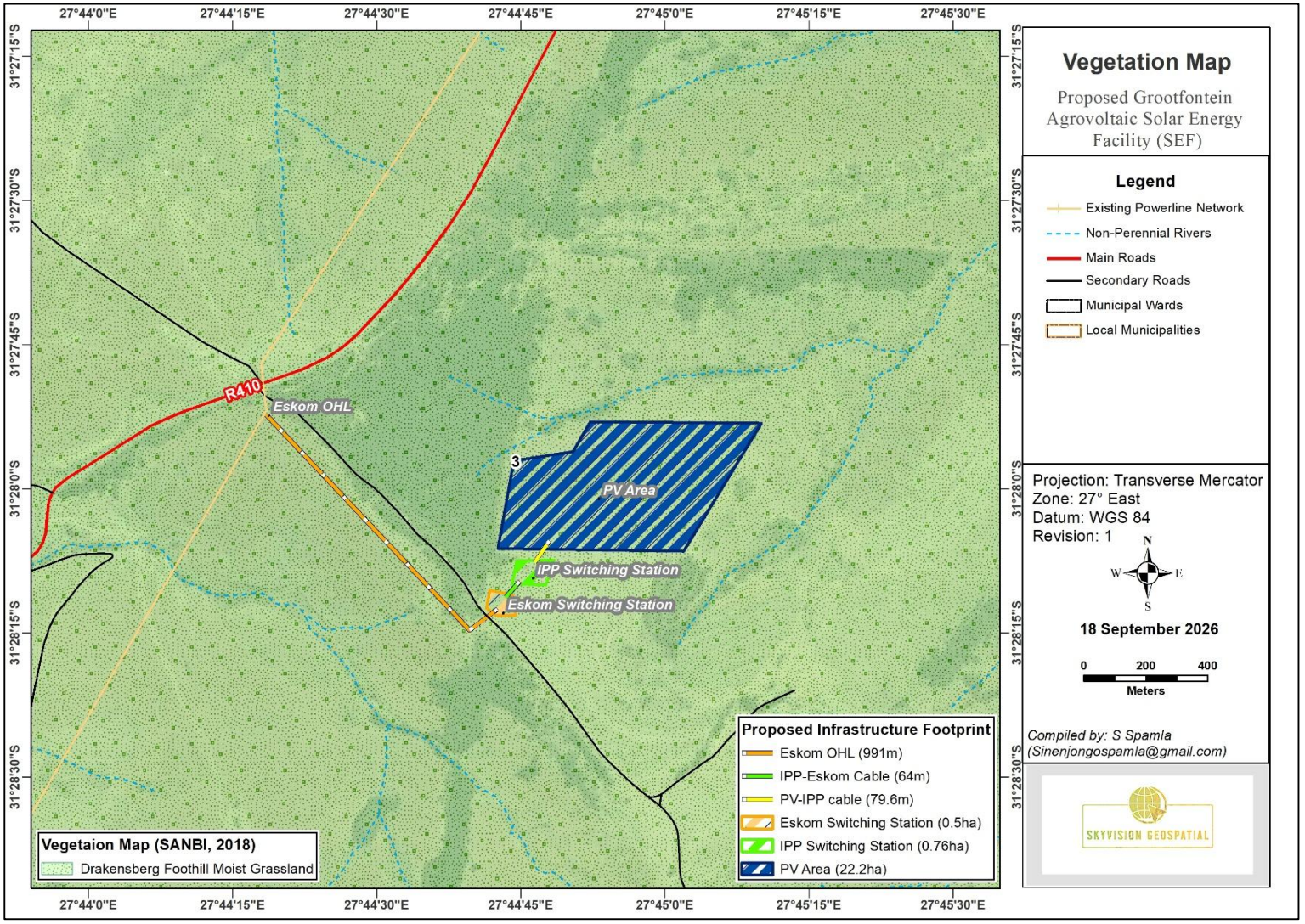


Figure 7: Vegetation Type Classification

3.1.3. Land Use/Land Cover

According to the South African National Land Cover (SANLC) 2022 dataset, the study area is dominated by a combination of vast crop fields, natural grassland vegetation and noticeably large patches of forested land (Figure 9). Observable anthropogenic land uses consist of dirt/gravel roads and cultivated land. Very few settlements were observed within the designated zone of visual influence (ZVI). These existing anthropogenic land-uses have significantly altered the scenic/visual aesthetic value of the area (Figure 8). Thus, the area has a strong rural farmland characterisation. All of the above mentioned human influences have an impact on the level of transformation on the visual character of the area.



Figure 8: Observed land uses within the surrounding environment

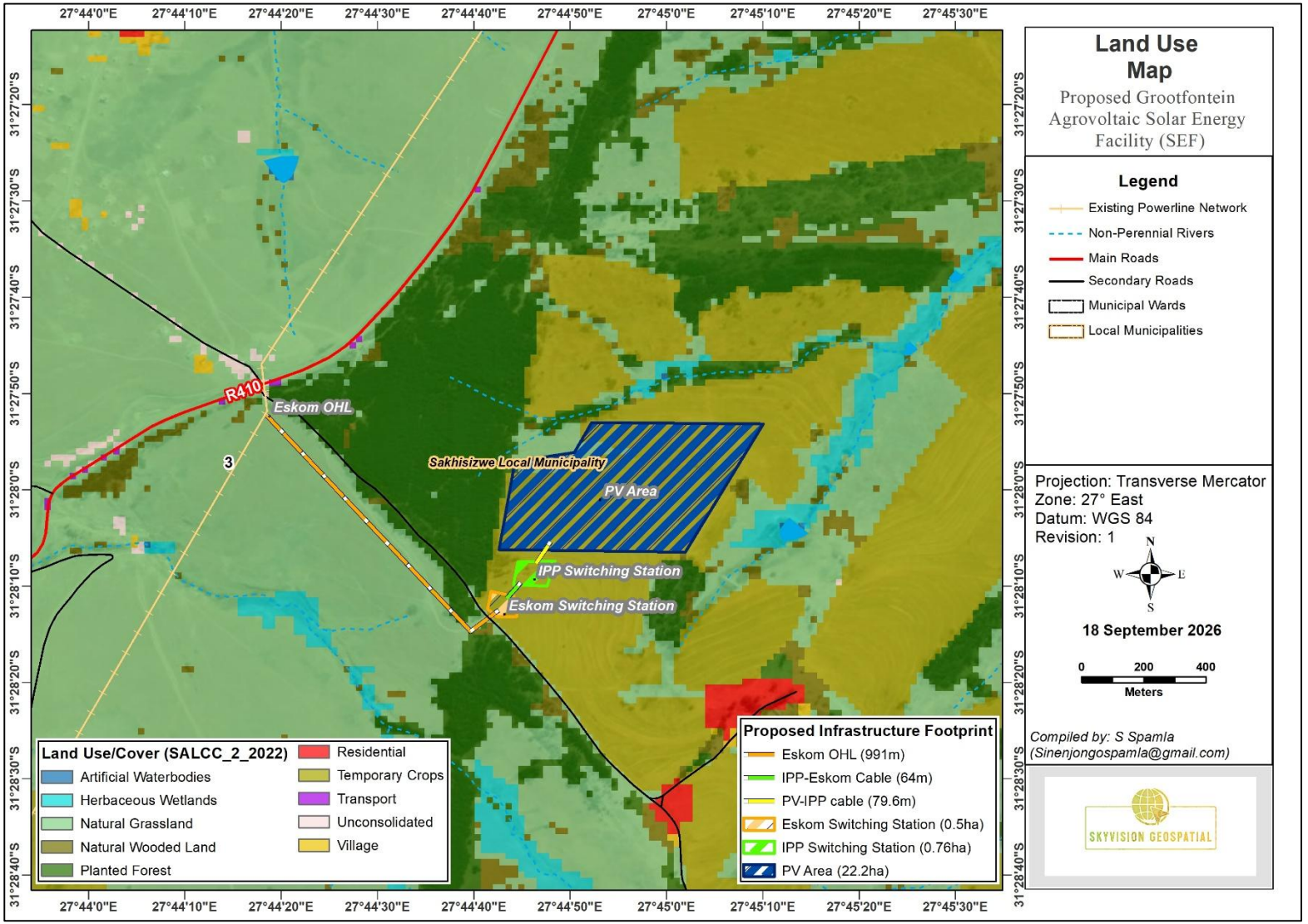


Figure 9: Land Cover Classification

3.2. Visual/Landscape Character

The baseline environment of the study area as described above contribute to its overall visual character. Visual character largely depends on the level of change or transformation from a natural baseline in which there is little evidence of human transformation of the landscape. Visual character is also influenced by the presence of built infrastructure including buildings, roads, and other objects such as telephone or electrical infrastructure. The visual character of an area largely determines the sense of place relevant to the area. This is the unique quality or character of a place, whether natural, rural, or urban which results in a uniqueness, distinctiveness, or strong identity.



Figure 10: Existing transmission powerlines

The landscape character of the area is variable across the surrounding environment. The wider setting is influenced by elevated terrain, rolling and steep slopes, ridges, valleys and mountain-pass environments.
This gives the area a predominantly scenic characteristic particularly along the R410 route. The Cala Pass on the R410 is an important landscape and scenic-route feature within the vicinity of the surrounding environment. Published descriptions indicate that the pass traverses a deep mountain cleft and gains approximately 335 m of elevation over about 7.3 km. Its high-altitude setting, changing weather conditions and pronounced topography contribute to a distinctive scenic experience. The anthropogenic land use features (roads, Settlements, Farms and transmission powerlines) in the area have to an extent, transformed/disturbed the natural visual aesthetic

of the landscape, thereby influencing the visual character and overall sense of place of the study area. The existing transformation of the landscape is an important factor in this context, as the introduction of the proposed Solar Energy Facility and associated infrastructure will have to be assessed in relation to the broader landscape system, including landform, rural settlement patterns, scenic roads and the visual relationship between the proposed development and surrounding terrain across the ZVI.



Figure 11: Cala Mountain Pass Foothill View

3.3. Visual Absorption Capacity

Visual Absorption Capacity (VAC) is the ability of the landscape to absorb a new development without any significant change in the visual character and quality of the landscape. The level of absorption capacity is largely based on the physical characteristics of the landscape (topography and vegetation cover) and the level of transformation present in the landscape.

The topography of the study area is defined by strong topographic variation with rolling/undulating slopes and drainage valleys. Lower slopes and gently rolling/undulating terrain on the other hand offer a better opportunity for visual integration/absorption. These features can either expose development over long distances or provide effective visual containment. The gently undulating (trough) nature of the site area terrain coupled with dense forested vegetation immediately adjacent to the project site, results in improved terrain screening and visual containment particularly of the PV area as it consists of shorter structures, hence avoiding skyline intrusion. The visual absorption capacity in the study area is therefore rated as **Moderate.**

3.4. Sensitive Receptor Identification

The visual impact of a proposed development is determined by the number of observers, their perceptions, cultural backgrounds, regularity of sighting and if they are residents or visitors to the area. The Zone of Visual Influence (ZVI) is defined by the Scottish Natural Heritage Report (2006), as the extent (distance and area) in which a development structure can theoretically be seen by humans. Additionally, the visibility of an object or development structure decreases exponentially as the observation distance between the receptor and the object increases (Hull and Bishop, 1988). This hereby determines that the visual impact of an object is confined to a particular ZVI depending on its extent and the presence/existence of other anthropogenic objects/developments associated with the receiving environment. Where buildings and other infrastructure already exist, the visual scene may be considered to have been already altered from a natural context, thus the introduction of a new development may be considered to effect less of a visual impact to the area.

As described above, the distance of the viewer / receptor location from the development is an important factor in the context of experiencing visual impacts which will have a strong bearing on mitigating the potential visual impact. A high impact rating has been assigned to receptor locations that are located within 500 m of the development. The visual impact of the proposed infrastructure will diminish beyond 5 km as the structures would appear to merge with the elements on the horizon. Any visual receptor locations beyond this distance limit have therefore not been assessed as they fall outside of the ZVI and would not be visually influenced by the proposed development.

At this stage, the ZVI for the proposed SEF has been delineated according to distance from the combined grid infrastructure assessment corridor (5 km radius). Based on the height and scale of the project, the distance intervals chosen for the zones of visual impact, as shown in Figure 17 are as follows:

- 0 – 500 m (high impact zone)
- 500 m – 2 km (moderate impact zone)
- 2 km – 5 km (low impact zone)

Visual impacts can be experienced by different types of receptors, such as people driving along roads, or people living / working in the area in which the structural feature is visible. The receptor type in turn affects the nature of the typical view of a potential source of visual impact, with views being permanent in the case of a residence or other place of human habitation, or temporary in the case of vehicles moving along a road. The nature of the view experienced affects the intensity of the visual impact experienced.

The identified potential receptors within the project ZVI are:

- **Regional Roads -** The roads along which people travel, are regarded as sensitive receptors. The R410, R56 and R58 as well as have been identified as the primary thoroughfares of the proposed development.

- **Settlements –** The Macangceni has been identified as a sensitive receptor due to its close proximity and its elevated landscape in comparison to the development area.

Cala Town/ Pass – The Cala Pass/ Town Cala Pass is an important visual consideration. South Africa's Solar PV environmental screening landscape theme includes sensitivity features for mountain-pass buffers, ridges and scarps, slope classes, towns, rivers, wetlands and major roads. This does not prohibit development near Cala, but it confirms the need to carefully assess the relationship between the project and sensitive landscape features. The greatest concern would arise if PV arrays, substations or grid infrastructure are positioned on prominent landform, project above the skyline or become dominant elements within views experienced from the R410/Cala Pass corridor.

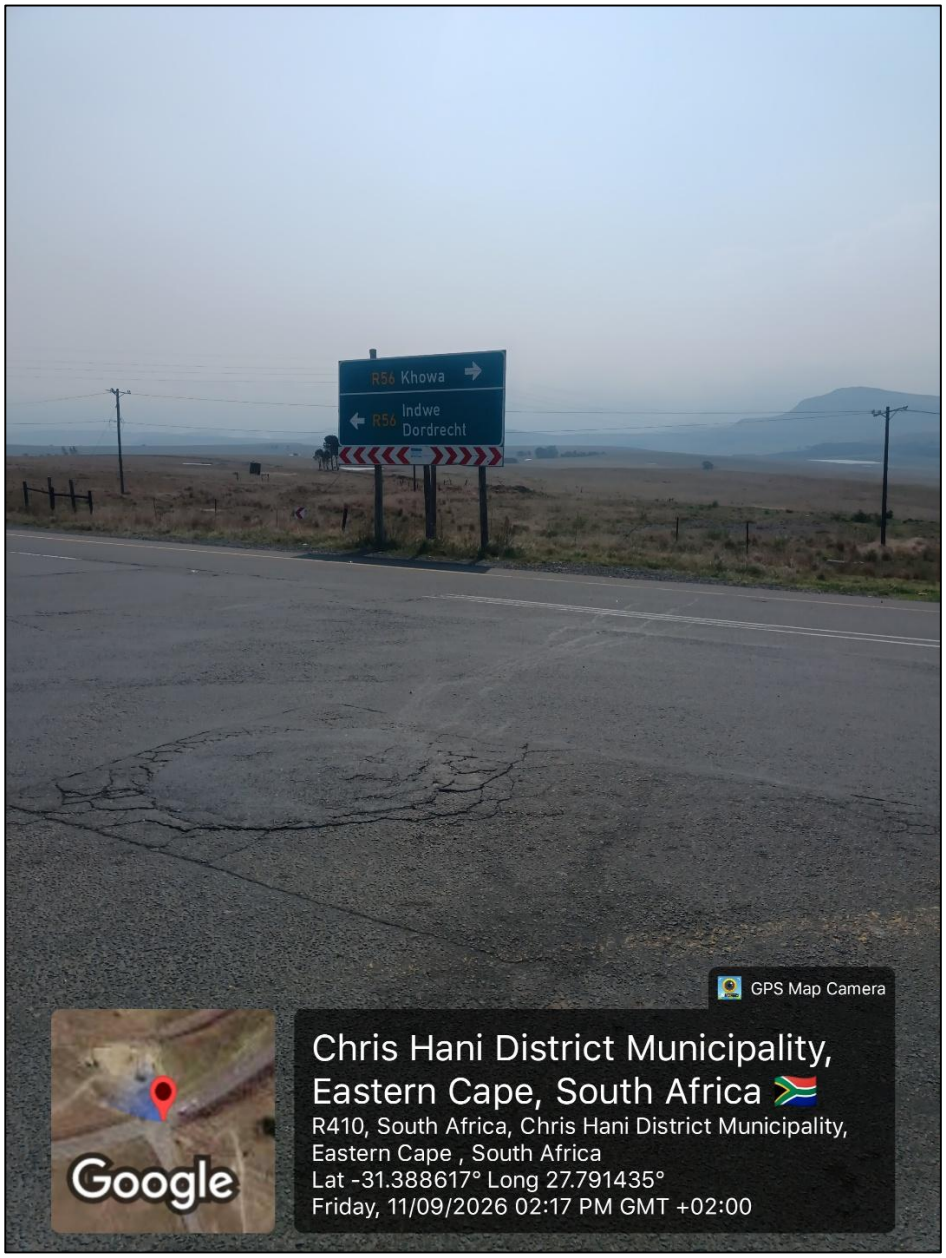


Figure 12: VP1 – Corner of R56 and R410 facing south-east towards the Project Area

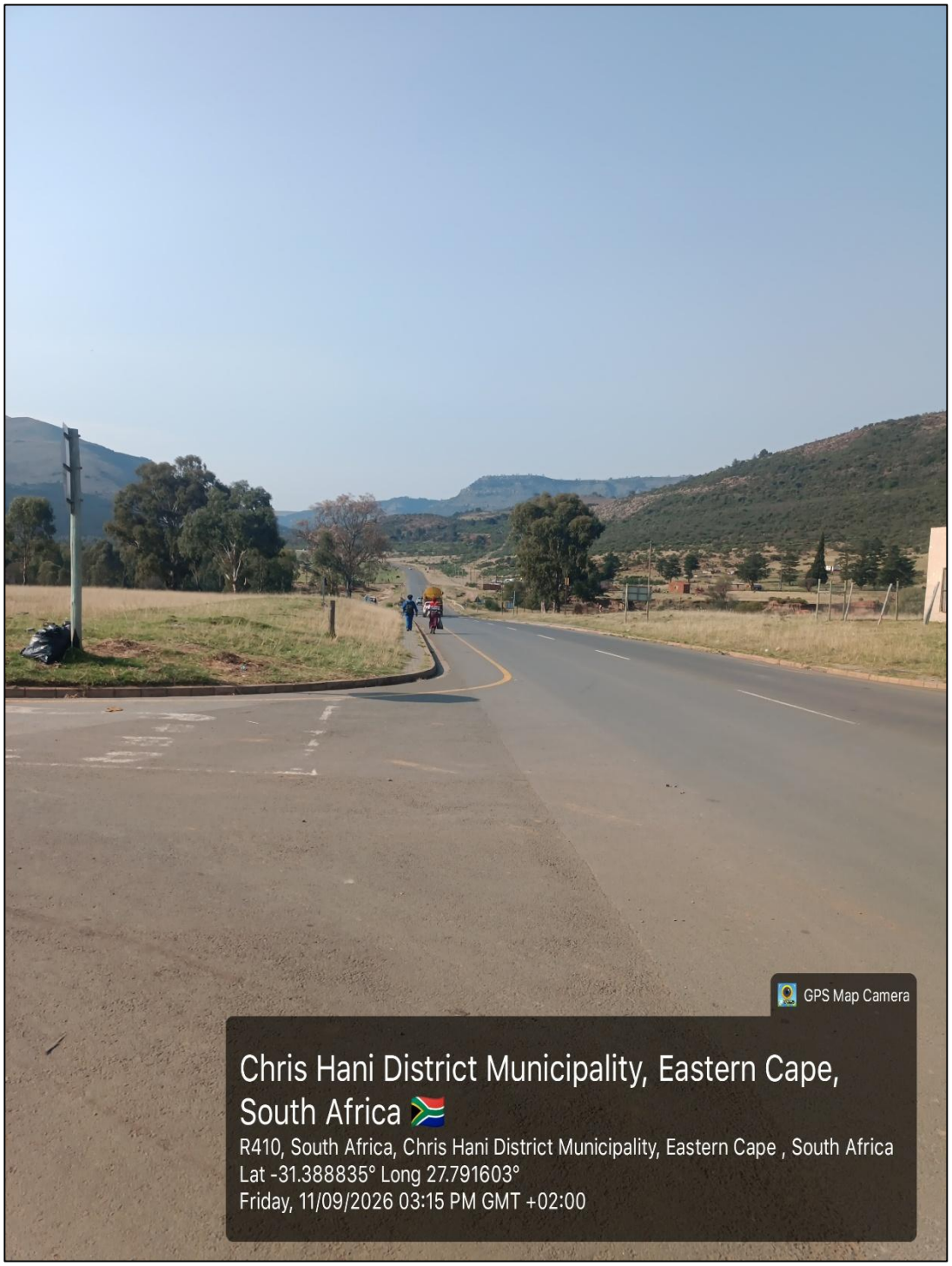


Figure 13: VP2 – R410 Cala Town entrance/exit at the foothill of the Cala Mountain Pass facing north towards the project Area

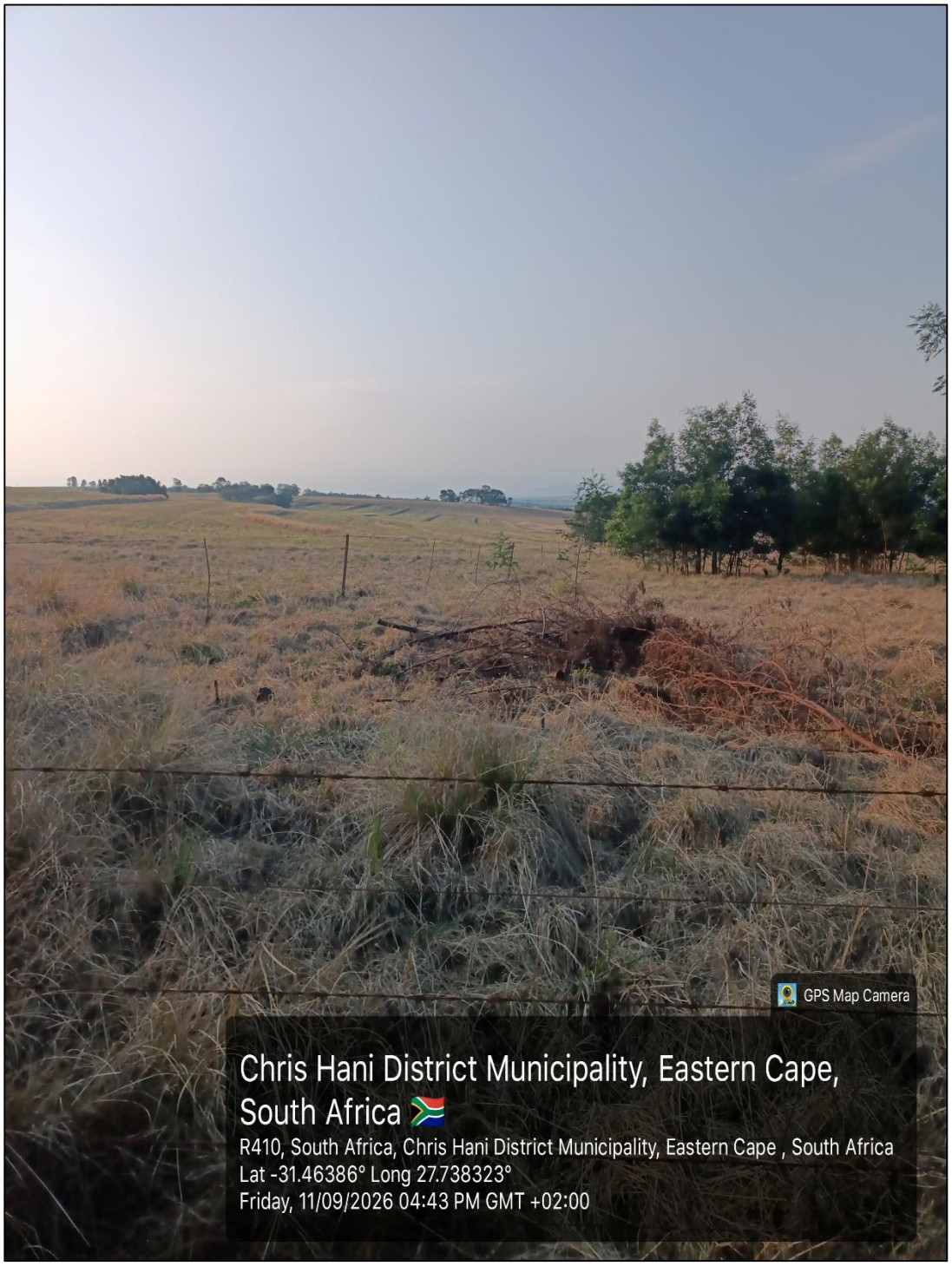


Figure 14: VP3 – Farm gate facing westwards towards the project Area

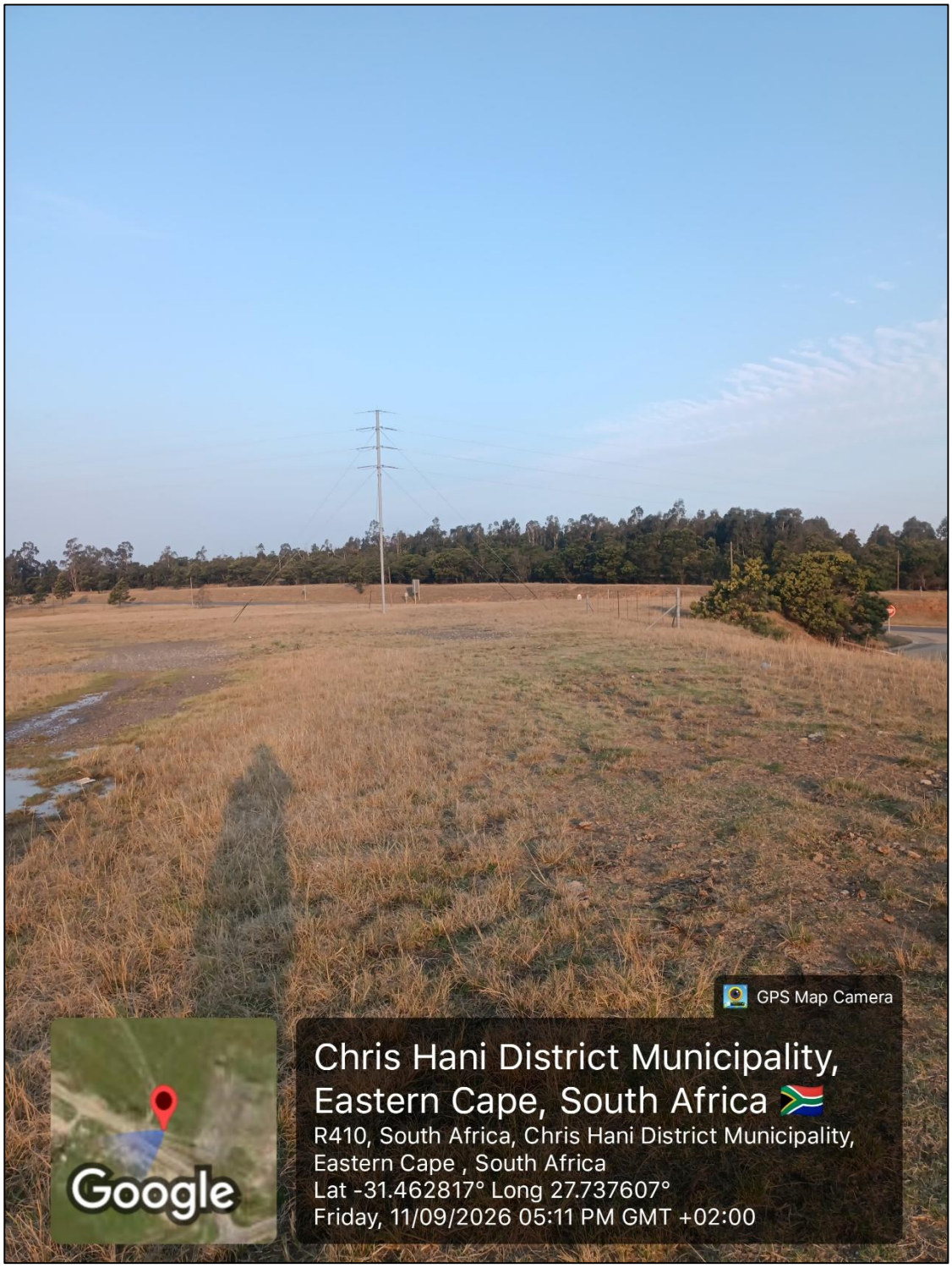


Figure 15: VP4 – Macangceni Village/R410 viewpoint facing east towards the project Area



Figure 16: VP5 – R58 viewpoint facing south towards the project Area

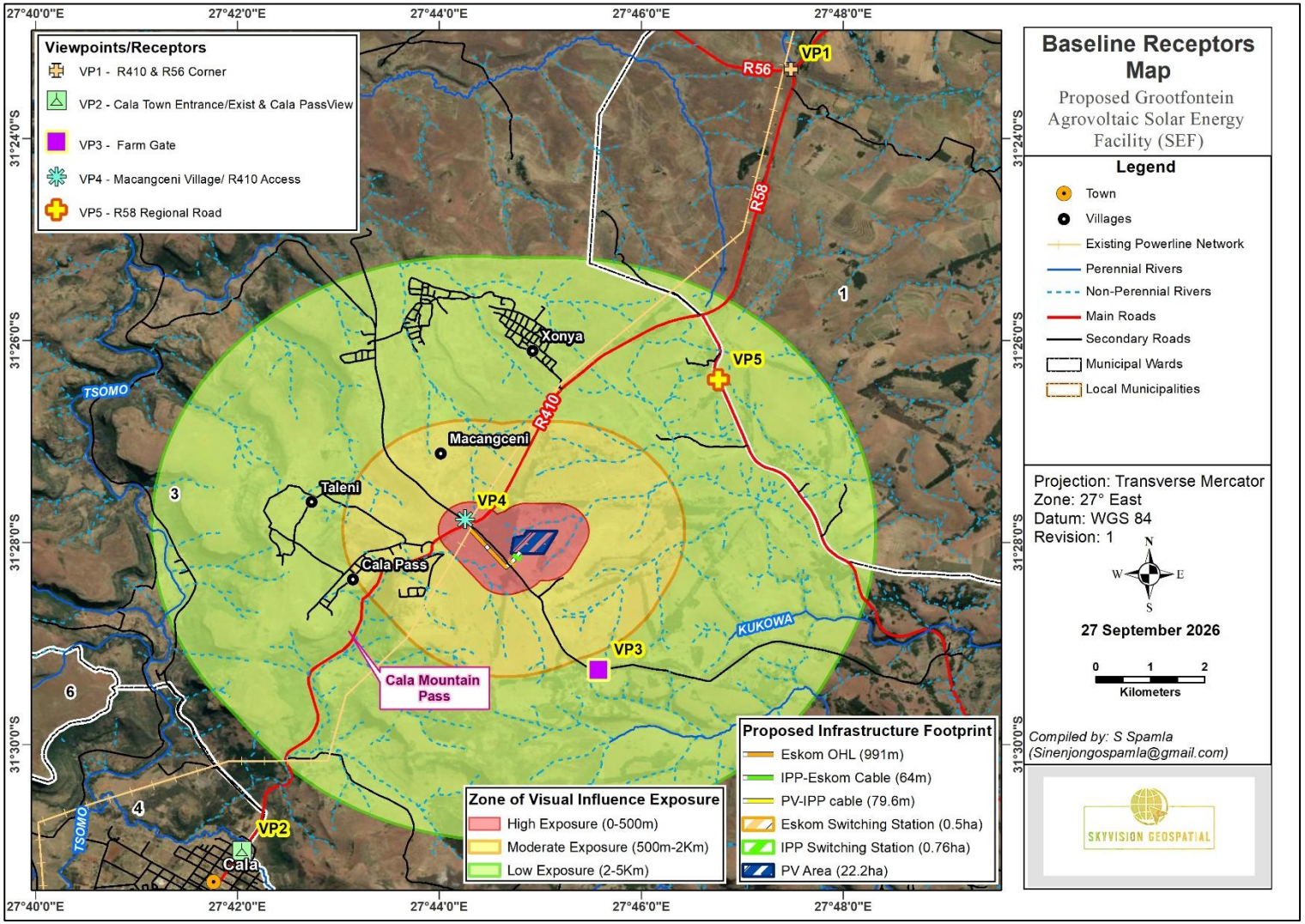


Figure 17: Identified receptor locations within 5km radius of the proposed development

4. RESULTS AND DISCUSSION

4.1. Characterisation of Visual Impacts

The expected visual impact of the Project was categorised based on the type of receiving environment and the type of development as detailed in Table 4-1 (Oberholzer, 2005). The table provides an indication of the visual impacts that can be expected for different types of developments in relation to the nature of the receiving environment. Following this classification system, the proposed project is classed as a **"Category 4 development"**. The vicinity of the receiving environment can be described as an area of high scenic, cultural or historical significance as discussed in Section 3.1.3. It is expected that the proposed project will potentially have a very high visual impact on the receiving environment as illustrated in Table 4-2.

Table 4-1: Categorisation of Developments (adopted from Oberholzer, 2005)

Type of Development	Examples of Development
Category 1	Nature reserves, nature related recreation, camping, picnicking, trails and minimal visitor facilities.
Category 2	Low-key recreation/resort/residential type development, small-scale agriculture/nurseries, narrow roads and small-scale infrastructure.
Category 3	Low density resort/residential type development, golf or polo estates, low to medium-scale infrastructure.
Category 4	Medium density residential development, sports facilities, small-scale commercial facilities/office parks, one-stop petrol stations, light industry, **medium-scale infrastructure**.
Category 5	High density township/residential development, retail and office complexes, industrial facilities, refineries, treatment plants, power stations, wind energy farms, power lines, freeways, toll roads, large-scale infrastructure generally. Large-scale development of agricultural land and commercial tree plantations. Quarrying and mining activities with related processing plants.

Table 4-2: Categorisation of Expected Visual Impacts (adopted from Oberholzer, 2005)

Type of Environment	Type of Development (Low to High Intensity)				
	Category 1 Development	Category 2 Development	Category 3 Development	Category 4 Development	Category 5 Development
Protected/wild areas of international, national or regional significance	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected	Very high visual impact expected
Areas or routes of high, scenic, cultural or historical significance	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected	Very high visual impact expected
Areas or routes of medium scenic, cultural or historical significance	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected	High visual impact expected
Areas or routes of low scenic, cultural or historical significance	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected	High visual impact expected
Disturbed or degraded sites/run down urban areas/wasteland	Little or no visual impact expected. Possible benefits	Little or no visual impact expected. Possible benefits	Little or no visual impact expected	Minimal visual impact expected	Moderate visual impact expected

4.1.1. Typical Visual Impacts Associated with Small Solar PV facilities

The proposed site should be regarded as potentially visually sensitive rather than automatically unsuitable. The wider Cala environment contains characteristics that can increase sensitivity, including mountain-pass scenery, elevated terrain, ridges and open grassland. A well-sited 10 MW PV facility could potentially be accommodated where the footprint is located on gently rolling or lower terrain, below prominent ridgelines, outside key panoramic views and visually separated from the most sensitive sections of the Cala Pass/R410 corridor. Avoidance should be the primary mitigation principle. Vegetation screening alone is unlikely to be sufficient in an open grassland landscape; careful micro-siting and terrain integration are more important.

It is anticipated that visual impacts will result from the activities and infrastructure in all Project phases i.e., construction, operational, and closure. Activities associated with the Project will be visible, to varying degrees

from varying distances around the Project site. During the establishment phase, the Project's visibility will be influenced due to the preparatory activities, primarily earthworks and infrastructure establishment. During the operation phase, the visibility of the Project will be the result of landscape scarring, waste rock dumps and prominent structures of the mining infrastructure in the processing plant.

Typical visual impact issues associated with manganese mining are:

- **Landscape scarring** – Large PV arrays and congested tall infrastructures (Poles, Pylons and Masts) create prominent scars on the natural landscape.
- **Removal of vegetation** – Clearing of trees, shrubs, and grasslands reduces natural visual screening and changes the character of the area.
- **Reduced scenic quality** – Industrial activity diminishes the aesthetic appeal of natural or rural landscapes.
- **Cumulative visual impacts on sensitive receptors** – Multiple disturbances such as an increase in transmission lines and transport corridors within a region can collectively transform the regional landscape and amplify visual intrusion.

Sensitivity to visual impacts is typically most pronounced in areas set aside for conservation of the natural environment (such as protected natural areas or conservancies), or in areas in where the natural character or scenic beauty of the area attracts visitors (tourists). In this instance, the Cala Mountain Pass and surrounding viewpoints, increase the visual aesthetic of the area. Thus the sense of place is more inclined towards a "Scenic rural or countryside setting".

Conversely, the presence of other anthropogenic objects associated with the built environment may "degrade" the visual environment and thus the introduction of the proposed SEF into this setting may be considered to be less of a visual impact than if there was no existing built infrastructure visible. In this context the project site falls within the Electricity Grid Infrastructure (EGI) Eastern Corridor and also within the Stomberg Wind Renewable Energy Development Zone (REDZ), these are pre-assessed zones established through Strategic Environmental Assessments (SEAs). Therefore, the establishment of the proposed development is within the planned infrastructure development plans for the region. This hereby means that the proposed development will ultimately form part of a bigger electrification/renewable energy generation region. In alignment with this, existing transmission powerlines were observed within the surrounding environment. Other factors, as listed below, can also affect the nature and intensity of a potential visual impact associated with the proposed development:

- The location of the development in the landform setting – i.e., in a valley bottom or on a ridge top. In the latter example the development would be much more visible and would "break" the horizon;
- The presence of macro- or micro-topographical features, built form or vegetation that would screen views of the development from a receptor location;
- The presence of existing, similar features in the area and their alignment in relation to the proposed new

development; and

- Temporary factors such as weather conditions (presence of haze, rainfall or heavy mist) which would affect visibility.

4.2. Visibility Analysis

Geospatial modelling techniques were used to undertake viewshed / visibility analysis for the proposed solar energy facility. A viewshed is a geographical area, defined by the topography, within which a particular feature will be visible (Oberholzer, 2005). The topography denotes whether a development will be visible from a receptor. The model is based on the principle of visual line of site and depicts the visibility coverage area(s) from which the proposed development will be potentially visible by the observer/receptor depending on topographic variations.

The resultant viewsheds for the proposed development components are shown in Figure 18 and it indicates that elements of the proposed SEF would be visible from much of the 5 km ZVI. The visibility analysis is based entirely on topography and does not consider any existing vegetation cover or built infrastructure which may screen views of the proposed development. This analysis should therefore be seen as a conceptual representation or a worst case scenario.

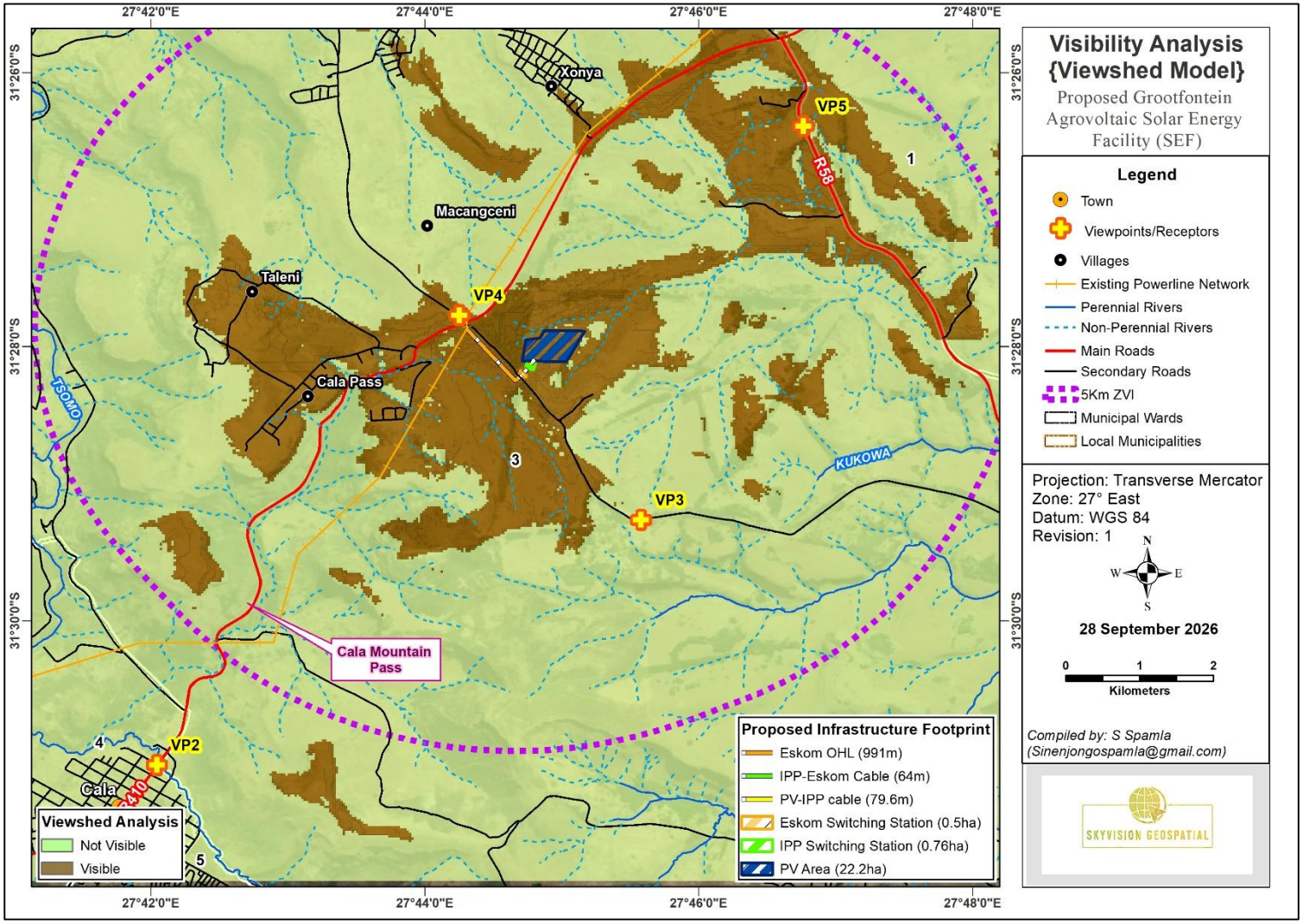


Figure 18: Potential Visibility of the mining footprint

4.3. Visual Impact Assessment

The EIA Regulations, 2014 require that an overall rating for visual impact is provided to allow the visual impact to be assessed alongside other environmental parameters. The impact matrices for visual impacts associated with the proposed construction, operation and decommissioning of the proposed solar energy facility are presented below together with recommended mitigation measures. The mitigation measures have been determined based on best practice and literature reviews.

The project activities were rated according to the visual impact they will have on the receiving environment, i.e. the environment before potential development. Negative visual impacts decrease the visual character of the pre-development environment. Neutral visual impacts assist to minimise the negative visual impacts of a development but do not result in a positive visual impact. A positive visual impact only occurs when an area is rehabilitated to a state that is better than the state of the pre-development environment, e.g. an infrastructure project area on previously agricultural land is rehabilitated to an area of natural vegetation and all visible signs of agriculture and infrastructure are removed. Positive visual impacts may only occur during the decommissioning and closure phase.

Refer to Annexure A for an explanation of the impact rating methodology.

4.3.1. Construction Phase

During the construction phase, unsightly views may be created by the presence of the construction camp and the lay-down yards. This has potential to alter the visual character or sense of place and pose visual impact on receptors in the study area. The uncertainty pertaining to the number, location and size of the construction camps, relates to **a Moderate level of confidence** in the assessment of the visual impact.

The temporary duration of the construction phase is not expected to cause major visual impacts. The location, number and size of the construction camps and lay-down yards will be crucial in regulating the impact. The earthworks associated with the site preparation will potentially cause noticeable impacts due to dust generation and increased traffic. Detail information is not available, and it is anticipated that the visual impact will occur localised and that a small number of tourists will be adversely affected by these project components during construction.

The potential visual impact on tourists during the construction phase of the proposed project can be mitigated with relative ease. The greatest factor to consider is the location of the construction camp out of potential views that may be experienced from scenic routes.

Table 4-3: Impact Rating for the Proposed SEF during the Construction Phase

	Rating	Significance
Prior to Mitigation		
Duration	Short Term (3)	**Moderate (negative) -40**
Extent	Limited (2)	
Intensity	Moderate (-3)	
Probability	Highly Probable (5)	

Mitigation/Enhancement Measures		
• If practically possible, locate construction camps in areas that are already disturbed or where it isn't necessary to remove established vegetation like for example, naturally bare areas; • Keep the construction sites and camps neat, clean and organised in order to portray a tidy appearance; • Screen the construction camp and lay-down yards by enclosing the entire area with a dark green or black shade cloth of no less than 2 m height; • Make use of existing access roads where possible; • Where new access roads are required, the disturbance area should be kept as small as possible. A two-track dirt road will be the most preferred option; • Locate access routes so as to limit modification to the topography and to avoid the removal of established vegetation; • Access routes should be located on the perimeter of disturbed areas such as cultivated/fallow lands as not to fragment intact vegetated areas; • If it is necessary to clear vegetation for a road, avoid doing so in a continuous straight line. Alternatively, curve the road in order to reduce the visible extent of the cleared corridor; and • Restrict the activities and movement of construction workers and vehicles to the immediate construction site and existing access roads.		
Post Mitigation/Enhancement Measures		
Duration	Short Term (2)	**Low (negative) - 28**
Extent	Limited (2)	
Intensity	Minor (-3)	
Probability	Probable (4)	
Cumulative Impacts		
• Visual impacts from construction activities for the proposed solar facility combined with the activities from the existing transmission lines could further alter the sense of place and visual character of the area; and • Visual impacts from construction activities for the proposed solar facility combined with additional pending Renewable Energy Projects could potentially exacerbate visual impacts on receptors despite the area having a substantial terrain screening and visual containment.		
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Moderate	**Low**

4.3.2. Operational Phase

Receptors may experience varying intensity of visual intrusion depending on their location within the thoroughfare roads adjacent to the proposed development. These residents are within the 5 km ZVI and in some instances within 500 m from the proposed alignment where this is considered the zone of highest visibility in which the highest degree of visual intrusion can be expected.

The VAC of the different landscape types plays a major role in the visibility of the proposed transmission line. As discussed above, the vegetation cover and topographically varied terrain does have the ability to decrease the severity of visual impact (Bishop et al, 1985) by providing screening.

Table 4-4: Impact Rating for the Proposed Solar Facility During the Operational Phase

	Rating	Significance
Prior to Mitigation		
Duration	Project Life (5)	**Moderate (negative) -55**
Extent	Local (3)	
Intensity	Moderate (-3)	
Probability	Definite (5)	
Mitigation/Enhancement Measures		
• Restrict vegetation clearance to the proposed infrastructure footprint area only. • Reduce and control dust using approved dust suppression techniques as and when required (i.e., whenever dust becomes apparent). • As far as possible, limit the amount of security and operational lighting present on site. • Lighting fixtures should make use of minimum lumen or wattage. • Mounting heights of lighting fixtures should be limited, or alternatively, foot-light or bollard level lights should be used.		
Post Mitigation/Enhancement Measures		
Duration	Project Life (5)	**Moderate (negative) - 36**
Extent	Limited (2)	
Intensity	Moderate (-2)	
Probability	Highly Probable (4)	
Cumulative Impacts		
• The proposed Solar Facility in conjunction with the existing Transmission powerlines will cumulatively alter the natural character of the study area towards a more congested mining town setting. • The night-time visual environment could be altered as a result of increased operational lighting resulting from the introduction of lights.		
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Moderate	**Low**

4.3.3. Decommissioning Phase

During the decommissioning phase, unsightly views may be created by the presence of the vehicles and demolition equipment and may result in surface disturbance, dust emissions and plumes from the increased traffic and decommissioning activities. This has potential to be an unwelcome visual intrusion and may alter the visual character or sense of place and pose visual impact on receptors in the study area.

The temporary duration of the decommissioning phase is not expected to cause major visual impacts. Although detailed information is not available, it is anticipated that the visual impact will occur localised and that a small number of tourists and residents will be adversely affected by this project phase.

Table 4-5: Impact Rating for the Proposed Solar Facility During the Decommissioning Phase

	Rating	Significance
Prior to Mitigation		
Duration	Short Term (2)	**Low (negative) -35**
Extent	Local (2)	
Intensity	Moderate (-3)	
Probability	Highly Probable (5)	
Mitigation/Enhancement Measures		
• All infrastructure that is not required post-decommissioning should be removed; • Carefully plan to minimize the decommissioning period and avoid delays; • Maintain a neat decommissioning site by removing rubble and waste materials regularly; • Position storage / stockpile areas in unobtrusive positions in the landscape, where possible; • Ensure that dust suppression procedures are maintained on all gravel access roads throughout the decommissioning phase; and • All cleared and disturbed areas should be rehabilitated as soon as possible.		
Post Mitigation/Enhancement Measures		
Duration	Short Term (2)	**Low (negative) – 20**
Extent	Site Specific (1)	
Intensity	Moderate (-2)	
Probability	Probable (4)	
Cumulative Impacts		
• The project site would be returned to its original visual state and have a positive effect on potential cumulative impacts in the study area		
Rating of cumulative impacts	**Without Mitigation**	**With Mitigation**
	Low	**Very Low**

4.3.4. Cumulative Impacts in Relation to Project Developments

Value can be placed in a landscape in terms of its aesthetic quality, or in terms of its sense of identity with which it is associated. Therefore, the magnitude of the value in a landscapes aesthetic quality has a direct effect on the perception of visual impact should the landscape be visually altered. On the contrary new developments within a landscape may not necessarily be perceived negatively in the case whereby a proposed development is associated with progress or improvement of the livelihoods and status of desired development within the area. The perception of visual impacts is thus highly subjective and involves “value judgements” on behalf of the receptors.

The study area is located in the vicinity of Macangceni village and Cala town in the Eastern Cape, which are predominantly dependant on agricultural economic activity. As a result, the introduction of the Agrovoltaic SEF will not negatively impact the economic activities of the surrounding area, as the land capability in terms of agricultural and grazing pastures will not be severely degraded by the introduction of the SEF. It is however noted that the proposed development will contribute towards an increase in the cumulative visual intrusion in the region, however, these impacts might be interpreted as being positive development considering the impact that renewable energy facilities have in strengthening the national grid generation as well as potential economic benefits through jobs that may arise from the development.

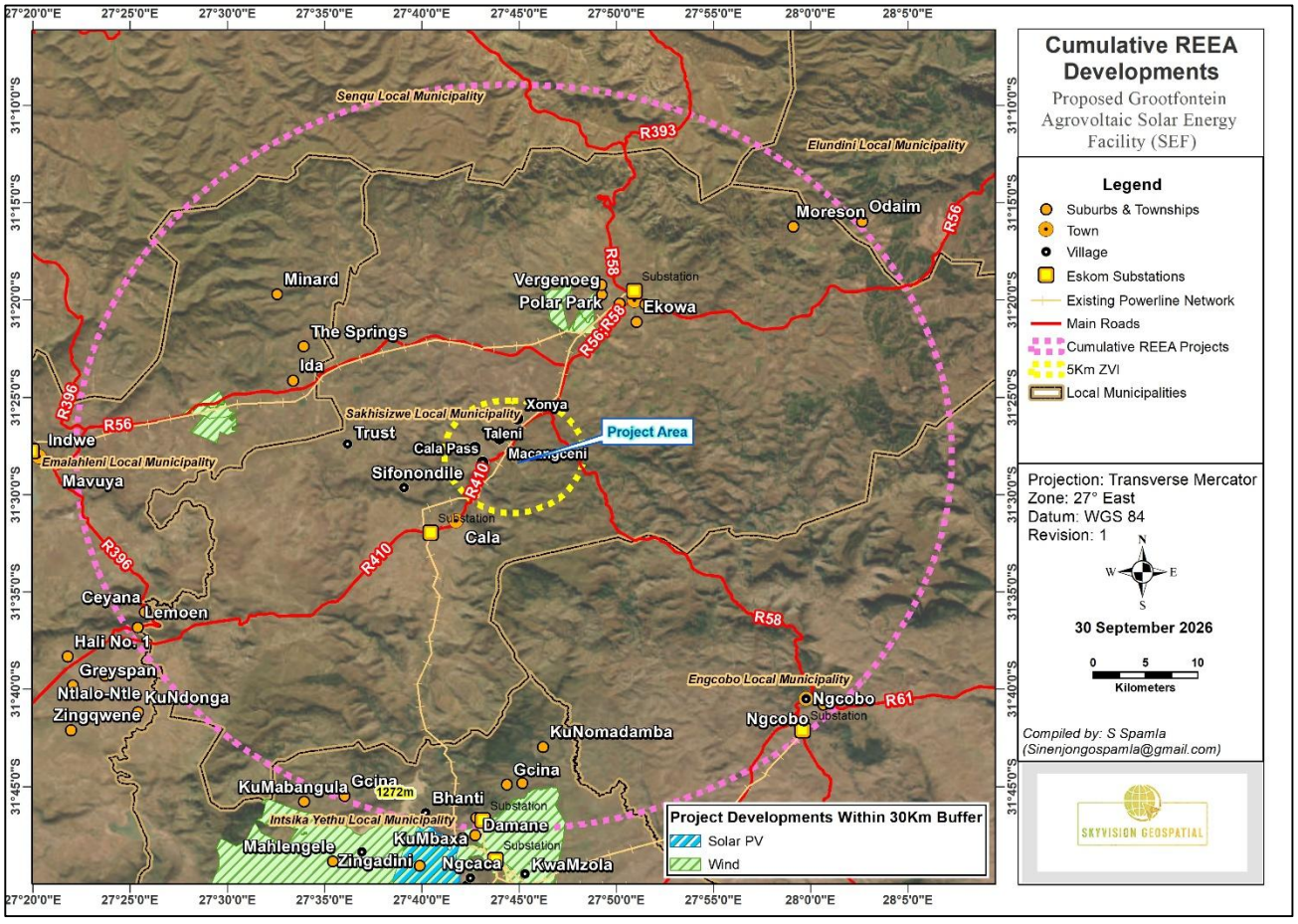


Figure 19: Cumulative Renewable Energy Projects And Transmission Powerlines Within a 30Km Buffer Zone.

5. CONCLUSION AND RECOMMENDATIONS

5.1. Conclusions

This VIA has been conducted to assess the magnitude and significance of the potential visual impacts associated with the proposed mining right application for manganese situated on portion RE/1121 of the farm GROOTE FONTEIN 1121within the Sakhisizwe local municipality (ward 03), Eastern Cape province.

This VIA has determined that the visual character across much of the study area is of high conservation value, however, it has been disturbed by pre-existing transmission lines and cultivated agricultural plots hence resulting in a "rural agricultural" sense of place. Furthermore, the area has falls within the Eastern EGI corridor and Stomberg Wind REDz. Thus the introduction of the proposed Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and potentially planned developments for the region. Subsequently the SEAs conducted for the national powerline corridors and REDz promote holistic environmental site suitability analysis, which also caters for identifying sites which have the least visual impacts on scenic landscapes. This is observed with the strategic site selection of this proposed SEF development as the terrain of the site area, is characterised by greater terrain screening and visual containment.

In this VIA, the assessment has concluded that the proposed development would be of **Moderate significance** in visual impact during the construction phases of the project, with a **Low significance** post mitigation. While the potential visual impact would be of **Moderate significance** during the operational phase of the project, with a **Moderate significance** post mitigation. The decommissioning phase would be of **Low significance.**

Considering the location of the proposed development, the introduction of the Agrovoltaic SEF, will not result in severe visual intrusion or significantly alter the visual sense of place post-mitigation in the study area. This takes into account the limited visual impacts that the proposed infrastructure will have in comparison to the pre-existing and potentially planned developments for the region. Although this will not necessarily reduce impacts on the visual character of the area and the overall cumulative impacts on the landscape. Considering this, cumulative impacts have been rated as Moderate during the construction and operational phases of the project and Low with mitigation and Low during the decommissioning phase and Very Low with mitigation.

5.2. Recommendations

1. The proposed development will not unacceptably alter the current visual character of the landscape, hence authorisation approval is recommended with adherence to the following management and mitigation measures in the EMPr.

- Retain and maintain natural vegetation (if present) immediately adjacent to the development footprint.

- Ensure that vegetation cover adjacent to the development footprint (if present) is not unnecessarily removed during the construction phase, where possible.
- Restrict the activities and movement of construction workers and vehicles to the immediate development footprint and existing access roads.
- Ensure that rubble, litter, and disused construction materials are appropriately stored (if not removed daily) and then disposed regularly at licensed waste facilities.
- Screen the construction camp and laydown area yards by enclosing the entire area with a dark green or black cloth of no less than 2m height.
- Where possible, utilize existing screening features such as dense vegetation and topographical features to place the construction camps and lay-down yards out of the view of sensitive visual receptors.
- Reduce and control construction dust using approved dust suppression techniques as and when required (i.e., whenever dust becomes apparent).
- Reduce the construction period by ensuring that adequate resources are mobilised for the construction phase.
- Rehabilitate all disturbed areas (if present / if required) immediately after the completion of construction works.

- Limit the construction phase duration to a short term.

6. REFERENCES

Amir, S. & Gidalizon, E. 1990. Expert-based method for the evaluation of visual absorption capacity of the landscape. Journal of Environmental Management. Vol. 30, Issue 3: 251 – 263.

Department of Environmental Affairs and Development Planning (DEADP) (2010) Guideline on Need and Desirability, EIA Guideline and Information Document Series. Western Cape Department of Environmental Affairs and Development Planning.

GLVIA. 2002. Guidelines for Landscape and Visual Impact Assessment. 2nd ed. United Kingdom: Spon Press.

Hull B. & Bishop I.D., 1988. Scenic impacts of electricity transmission towers: The influence of landscape type and observer distance. Journal of Environmental Management 27, pp. 99-108.

Oberholzer B., 2005: Guideline for involving visual and aesthetic specialists in EIA processes: Edition 1. CSIR Report No ENV-S-C 2005 053 F. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs and Development Planning, Cape Town.

ANNEXURE A: IMPACT ASSESSMENT METHODOLOGY

Impact Assessment Methodology

The intensity of impact is assessed through a combination of visual intrusion, visibility, visual exposure, and viewer sensitivity criteria. Once the intensity of impact has been established this value is further qualified with spatial, duration and probability criteria to determine the significance of the visual impact. The probability of an impact is then determined by the frequency at which the activity takes place or is likely to take place and by how often the type of impact in question has taken place in similar circumstances. In assessing the intensity and significance of visual impact, the study assumes the worst-case scenario, which is, all housing units will be constructed simultaneously.

The significance rating process follows the following established impact and risk formula:

Significance** = **Consequence x Nature x Probability

Whereby,

***Consequence** = Intensity + Duration + Extent*

***Probability** = Likelihood of an impact occurring*

***Nature** = Positive or Negative Impact*

The matrix calculates the rating out of 147, whereby intensity, extent, duration and probability are each rated out of seven. The weight assigned to the various parameters is then multiplied by +1 for positive and -1 for negative impacts. Impacts are rated prior to mitigation and again after consideration of the mitigation has been applied; post-mitigation is referred to as the residual impact. The significance of an impact is determined and categorised into one of eight categories. It is important to note that the pre-mitigation rating takes into consideration the activity as proposed, (i.e., there may already be some mitigation included in the engineering design). Should the specialist determine that the potential impact is still high, additional mitigation measures maybe proposed.

Table A-1: Impact Assessment Parameter Ratings

Rating	Intensity/ Replaceability		Extent	Duration/Reversibility	Probability
	Negative Impacts (Nature = -1)	**Positive Impacts (Nature = +1)**			
7	Irreplaceable loss or damage to biological or physical resources or highly sensitive environments. Irreplaceable damage to highly sensitive cultural/social resources.	Noticeable, on-going natural and/or social benefits which have improved the overall conditions of the baseline.	International The effect will occur across international borders.	Permanent The impact is irreversible, even with management, and will remain after the life of the project.	Definite There are sound scientific reasons to expect that the impact will definitely occur. > 80% probability
6	Irreplaceable loss or damage to biological or physical resources or moderate to highly sensitive environments. Irreplaceable damage to cultural/social resources of moderate to high sensitivity.	Great improvement to the overall conditions of a large percentage of the baseline.	National Will affect the entire country.	Beyond Project Life The impact will remain for some time after the life of the project and is potentially irreversible even with management.	Almost Certain/Highly Probable It is most likely that the impact will occur. < 80% probability

Rating	Intensity/ Replaceability		Extent	Duration/Reversibility	Probability
	Negative Impacts (Nature = -1)	**Positive Impacts (Nature = +1)**			
5	Serious loss and/or damage to biological or physical resources or highly sensitive environments, limiting ecosystem function. Very serious widespread social impacts. Irreparable damage to highly valued items.	On-going and widespread benefits to local communities and natural features of the landscape.	Province/Region Will affect the entire province of region.	Project Life (> 15 years) The impact will cease after the operational life span of the project and can be reversed with sufficient management.	Likely The impact may occur. < 65% probability
4	Serious loss and/or damage to biological or physical resources or moderately sensitive environments, limiting ecosystem function. On-going serious social issues. Significant damage to structures/items of cultural significance.	Average to intense natural and/or social benefits to some elements of the baseline.	Municipal Area Will affect the whole municipal area.	Long Term 6-15 years and the impact can be reversed with management.	Probable Has occurred here or elsewhere and could therefore occur. < 50% probability

Rating	Intensity/ Replaceability		Extent	Duration/Reversibility	Probability
	Negative Impacts (Nature = -1)	**Positive Impacts (Nature = +1)**			
3	Moderate loss and/or damage to biological or physical resources or low to moderately sensitive environments, limiting ecosystem function. On-going social issues. Damage to items of cultural significance.	Average, on-going positive benefits, not widespread but felt by some elements of the baseline.	Local Local extending only as far as the development site area.	Medium Term 1-5 years and the impact can be reversed with minimal management.	Unlikely Has not happened yet but could happen once in the lifetime of the project, therefore there is a possibility that the impact will occur. < 25% probability
2	Minor loss and/or effects to biological or physical resources or low sensitive environments, not affecting ecosystem functioning. Minor medium term social impacts on local population. Mostly repairable. Cultural functions and processes not affected.	Low positive impacts experienced by a small percentage of the baseline.	Limited Limited to the site and its immediate surroundings.	Short Term Less than 1 year and is reversible.	Rare/Improbable Conceivable, but only in extreme circumstances. The possibility of the impact materialising is very low as a result of design, historic experience or implementation of adequate mitigation measures. < 10% probability

Rating	Intensity/ Replaceability		Extent	Duration/Reversibility	Probability
	Negative Impacts (Nature = -1)	**Positive Impacts (Nature = +1)**			
1	Minimal to no loss and/or effect to biological or physical resources, not affecting ecosystem functioning. Minimal social impacts, low-level repairable damage to common place structures.	Some low-level natural and/or social benefits felt by a very small percentage of the baseline.	Site Specific Limited to specific isolated parts of the site.	Immediate Less than 1 month and is completely reversible without management.	Highly Unlikely/None Expected never to happen. < 1% probability

Table A-2: Probability and Consequence Matrix

Probability	Significance																																						
7	-147	-140	-133	-126	-119	-112	-105	-98	-91	-84	-77	-70	-63	-56	-49	-42	-35	-28	-21	21	28	35	42	49	56	63	70	77	84	91	98	105	112	119	126	133	140	147
6	-126	-120	-114	-108	-102	-96	-90	-84	-78	-72	-66	-60	-54	-48	-42	-36	-30	-24	-18	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126
5	-105	-100	-95	-90	-85	-80	-75	-70	-65	-60	-55	-50	-45	-40	-35	-30	-25	-20	-15	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105
4	-84	-80	-76	-72	-68	-64	-60	-56	-52	-48	-44	-40	-36	-32	-28	-24	-20	-16	-12	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80	84
3	-63	-60	-57	-54	-51	-48	-45	-42	-39	-36	-33	-30	-27	-24	-21	-18	-15	-12	-9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60	63
2	-42	-40	-38	-36	-34	-32	-30	-28	-26	-24	-22	-20	-18	-16	-14	-12	-10	-8	-6	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42
1	-21	-20	-19	-18	-17	-16	-15	-14	-13	-12	-11	-10	-9	-8	-7	-6	-5	-4	-3	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
	-21	**-20**	**-19**	**-18**	**-17**	**-16**	**-15**	**-14**	**-13**	**-12**	**-11**	**-10**	**-9**	**-8**	**-7**	**-6**	**-5**	**-4**	**-3**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**
Consequence																																							

The significance weightings for each potential impact are as follows:

- < 35 points: **Low** (i.e. where this impact would not have a direct influence on the decision to develop in the area),
- 35-72 points: **Moderate** (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),
- > 72 points: **High** (i.e. where the impact must have an influence on the decision process to develop in the area)

ANNEXURE B: Curriculum Vitae of Specialist

Name	**Sinenjongo**
Surname	**Spamla**
Age	**30**
Identity Number	**9606135370083**
Nationality	**South African**
Expertise/Job Title	**GIS & Remote Sensing and Visual Impact Assessment Specialist**
Experience	**6 years**

A detail-orientated professional with local and international environmental GIS and Remote Sensing consultancy experience in advanced spatial analysis, spatial data management, cartographic map production, environmental noise monitoring & dispersion modelling as well as visual impact assessments predominantly within the mining, infrastructure development and the renewable energy industries.

SKILLS

- Spatial Data Management
- Geospatial Analysis and Modelling
- Report Writing
- Digital Survey Designing and Data Management
- Visual Impact Assessments
- Project Management
- Advanced Remote Sensing Observatory Analysis
- Cartographic Map Production
- Aerial Surveys and Surveillance

EDUCATION/QUALIFICATIONS

Institution	Year Awarded	Qualification
University of KwaZulu-Natal	2018	Bachelor of Science (Environmental Science)
University of KwaZulu-Natal	2019	Bachelor of Science Honours (Environmental Science)
University of KwaZulu-Natal	2022	Master of Science (Environmental Science)
Other		
University of Cape Town	2022	Project Management Foundations
Drone Safety and Legal (DSL)	2022	Remote Pilot License

PROFESSIONAL BODY AFFILIATIONS

- Geo-Information Society of South Africa (Member)

CAREER SUMMARY

DATE	COMPANY	DESIGNATION
2019-2019	Mondise Environmental Consulting	Assistant GIS & Remote Sensing Specialist
2021-2022	Digby Wells and Associates	GIS and Remote Sensing Intern
2021- 2025	Nsovo Environmental Consulting	GIS Specialist (Freelance)
2022-Present	Mora Ecological Services	GIS Specialist (Freelance)
June 2025- June 2026	Niara Environmental Consultants	GIS Specialist (Full-time)
2023-2025, 2026- Present	Sky vision Geospatial Consulting	GIS & Visual Specialist (Full-time)

PROFESSIONAL EXPERIENCE

- Remote Sensing
- Environmental GIS
- Environmental Impact Assessments
- Visual Impacts Assessments
- Environmental Noise Impact Assessments
- Data Management

LANGUAGE SKILLS

Language	Reading	Speak	Write
English	Excellent	Excellent	Excellent
IsiXhosa	Excellent	Excellent	Excellent
IsiZulu	Excellent	Excellent	Excellent
Sesotho (Southern)	Intermediate	Intermediate	Intermediate

PROJECT EXPERIENCE

PROJECT	YEAR	ROLE

1. Kudumane Manganese Resources 2024 IWWMP & RSIP Update, Northern Cape Province	2024	GIS Specialist
2. VIA for the Proposed Construction of 2 x 400kV powerlines from the existing Lulamisa-Pluto 400kV powerline to the proposed 400/88kV Demeter main transmission substation; Roodepoort strengthening project in the city of Johannesburg Municipality, Gauteng Province	2024	Visual Specialist
3. EIA For the Proposed Eskom Poseidon North Substation, Inxuba Yethemba Local Municipality, Eastern Cape	2024	GIS Specialist
4. Visual Impact Assessment for The Mining Right Application For Coal on Portions of The Farms Uitkyk 834, Uitkyk 835, Smeertouw 297, Uitkijk 315, Langverwacht 476, Zomerveld 277, Uitkyk 743 and Dampoort 17598 Within the Vryheid Area in the KwaZulu-Natal Province.	2024	Visual Specialist
5. VIA for The Proposed Construction of the Burotho-Nzhelele 400kV Powerline, Limpopo Province	2024	Visual Specialist
6. VIA For the Proposed Hospital View Township Development, Bushbuckridge Local Municipality, Mpumalanga Province	2024	Visual Specialist
7. VIA for the Proposed Isandlwana In-Situ Upgrading Housing Project, Nqutu Local Municipality, KwaZulu-Natal Province	2024	Visual Specialist
8. EIA for the Proposed Aurora-Juno 400kV Powerline, Western Cape	2024	GIS Specialist
9. EIA for the Botswana Rail Link Total Route Plan	2024	GIS Specialist
10. EIA for the Proposed Bokokotla Motshabo Mixed-Use Development and Associated Infrastructure	2023	GIS Specialist
11. Sihlanzimvelo Project, Ethekwini Metropolitan Municipality	2023	GIS Specialist
12. Development of ABO Wind Serval Solar Energy Facilities 1-10, Mpumalanga Province	2023	GIS & Visual Specialist
13. EIA for the Proposed Dutya-Butterworth 132kV Powerline, Eastern Cape	2023	GIS Specialist
14. Proposed Dorstfontein West Operations, Emalahleni Local Municipality, Mpumalanga Province	2023	GIS Specialist
15. Amendment of Existing WULA Application for Marula Platinum Mine, Fetakgomo Tubatse Local Municipality, Limpopo Province	2023	GIS Specialist
16. EIA for the proposed Mercury-Umtu 2 x 765kV Powerline	2023	GIS Specialist
17. Amendment of the WULA for Seriti Coal Mine, Steve Tshwete Local Municipality, Mpumalanga Province	2023	GIS Specialist
18. EIA for the Proposed Vamecto Solar Plant, Madibeng Local Municipality, North West Province	2023	GIS Specialist
19. BAR Dorstfontein West Coal Mine Dense Medium Separation Plant, Emalahleni Local Municipality, Mpumalanga Province	2023	GIS Specialist
20. Kudumane Resources IWMP, Joe Morolong Local Municipality, Northern Cape	2021-2023	GIS Specialist
21. Thabor Minerals Mining Waste Management License Application, Ekurhuleni Local Municipality, Gauteng	2023	GIS Specialist

22. Environmental Impact Assessment for Dimbane Coal Mine, Victor Khanye Local Municipality, Mpumalanga Province	2023	GIS Specialist
23. Wescoal Processing Plant Bioimonitoring, Steve Tshwete Local Municipality, Mpumalanga Province	2022	GIS Specialist
24. EIA for the Proposed Dorstfontein West Underground Mining Expansion Block A and B, Emalahleni Local Municipality, Mpumalanga Province	2022	GIS Specialist
25. Bushveld Vanchem WULA Application, Emalahleni Local Muncipality, Mpumalanga Province	2022	GIS Specialist
26. Environmental Noise Impact Assessment for the Proposed Marvel Gold Mine, Bougouni, Mali	2022	Noise Specialist
27. Environmental and Social Impact Assessment Update for the Goulamina Lithium Project, Mali	2022	Noise Specialist
28. Environmental and Social Impact Assessment for the Karo Platinum 132Kv Powerline Project, Zimbabwe	2022	GIS Specialist
29. Visual Impact Assessment for the Karo Platimum 132kV Powerline Project, Zimbabwe	2022	Visual Specialist
30. Tabakorole PFS Baseline and ESIA Scoping, Mali	2022	Noise Specialist
31. IWWMP Update	2022	GIS Specialist
32. Protected Tree Permit Application	2022	GIS Specialist
33. Ivanplats PRA environmental authorization	2022	GIS Specialist
34. Meya River ESIA	2022	GIS Specialist
35. Skimming-Leruleng Phase 2 Resettlement Study	2022	Data Management Specialist
36. Anglo American Social Way Transition 3.0 Polokwane Smelter	2022	Data Management Specialist
37. TEP EMPr Ammendment	2022	GIS Specialist
38. Site Liability Assessment for Babcock Powerlines Site in Nigel	2022	GIS Specialist
39. Mutoshi Dewatering Model Update	2022	GIS Specialist
40. Bulyanhulu Ground Water Study	2022	GIS Specialist
41. Socio Economic Baseline Study	2022	GIS Specialist
42. BAR for the proposed Helipad Expansion in the Port of Richards Bay	2022	GIS Specialist
43. Mofokeng Sewer Pump Upgrade	2022	GIS Specialist
44. Update of The Mining Works Programme	2021	GIS Specialist

45. External Environmental Compliance Audits	2021	GIS Specialist
46. Pre-Feasibility Study for the Proposed Capacity Development for Automotive Volumes via Southcor and the Port of Port Elizabeth O for the construction of Burnstone 132kV powerline	2021	GIS Specialist
47. Update to the alternative Assessment for the Proposed TSF3 at the Peublo Viejo Mine, Dominican Repubic	2021	GIS Specialist
48. NEMA Section 24G, Transnet Helios Application	2021	GIS Specialist
49. Sweetwater Walking School Bus Project	2019	GIS Specialist
50. Invasive alien plants management plan (Mapping and database)	2019	Assistant GIS & Remote Sensing Specialist

REFERENCES

1. **Mr. Keenan Terry –** Digby Wells Environmental; Noise Lead and GIS specialist (Mentor) | 081 360 7421/ 067 291 0181
2. **Mrs. Megan Edwards -** Digby Wells Environmental; Senior Hydrologist |076 831 9043
3. **Mr Jerry Mokgatla Molepo –** Mora Ecological Services; Avifaunal & Biodiversity Specialist and Director | 081 410 3763
4. **Mrs. Munyadizwa Rikhotso** – Nsovo Environmental Consulting; Executive Director | 071 602 2369
5. **Londolani Sitsula –** Zitholele Consulting; Environmental Assessment Practitioner | 081 895 1540