THE PROPOSED SUN CENTRAL CLUSTER PHASE 2 SOLAR PHOTOVOLTAIC FACILITY, NORTHERN CAPE PROVINCE, SOUTH AFRICA

Visual Statement

Draft v_1

DATE: 3 June 2023

Document prepared for Sun Central Cluster Phase 2 (Pty) Ltd
On behalf of Ecoleges Environmental Consultants cc

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TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS

APHP	Association of Professional Heritage Practitioners
BLM	Bureau of Land Management (United States)
BPEO	Best Practicable Environmental Option
CALP	Collaborative for Advanced Landscape Planning
DEM	Digital Elevation Model
DoC	Degree of Contrast
EIA	Environmental Impact Assessment
EMPr	Environmental Management Plan
GIS	Geographic Information System
GPS	Global Positioning System
IDP	Integrated Development Plan
IEMA	Institute of Environmental Management and Assessment (United Kingdom)
KOP	Key Observation Point
LVIA	Landscape and Visual Impact Assessment
MAMSL	Metres above mean sea level
NELPAG	New England Light Pollution Advisory Group
PNR	Private Nature Reserve
SDF	Spatial Development Framework
SEA	Strategic Environmental Assessment
VAC	Visual Absorption Capacity
VIA	Visual Impact Assessment
VRM	Visual Resource Management
VRMA	Visual Resource Management Africa
ZVI	Zone of Visual Influence

GLOSSARY OF TECHNICAL TERMS

Technical Terms	**Definition** (Oberholzer, 2005)
Degree of Contrast	The measure in terms of the form, line, colour and texture of the existing landscape in relation to the proposed landscape modification in relation to the defined visual resource management objectives.
Visual intrusion	Issues are concerns related to the proposed development, generally phrased as questions, taking the form of “what will the impact of some activity be on some element of the visual, aesthetic or scenic environment”.
Receptors	Individuals, groups or communities who would be subject to the visual influence of a particular project.
Sense of place	The unique quality or character of a place, whether natural, rural or urban.
Scenic corridor	A linear geographic area that contains scenic resources, usually, but not necessarily, defined by a route.
Viewshed	The outer boundary defining a view catchment area, usually along crests and ridgelines. Similar to a watershed. This reflects the

	area, or the extent thereof, where the landscape modification would probably be seen.
Visual Absorption Capacity	The potential of the landscape to conceal the proposed project.

Technical Term	**Definition** (USDI., 2004)
Key Observation Point	Receptors refer to the people located in the most critical locations, or key observation points, surrounding the landscape modification, who make consistent use of the views associated with the site where the landscape modifications are proposed. KOPs can either be a single point of view that an observer/evaluator uses to rate an area or panorama, or a linear view along a roadway, trail, or river corridor.
Visual Resource Management	A map-based landscape and visual impact assessment method development by the Bureau of Land Management (USA).
Zone of Visual Influence	The ZVI is defined as 'the area within which a proposed development may have an influence or effect on visual amenity.'

1 DFFE SPECIALIST REPORTING REQUIREMENTS

1.1 Specialist declaration of independence

Table 1. Specialist declaration of independence.

All intellectual property rights and copyright associated with VRM Africa's services are reserved, and project deliverables, including electronic copies of reports, maps, data, shape files and photographs, may not be modified or incorporated into subsequent reports in any form, or by any means, without the written consent of the author. Reference must be made to this report, should the results, recommendations or conclusions in this report be used in subsequent documentation. Any comments on the draft copy of the Visual Impact Assessment (VIA) must be put in writing. Any recommendations, statements or conclusions drawn from, or based upon, this report, must make reference to it.

This document was completed by Silver Solutions 887 cc trading as VRM Africa, a Visual Impact Study and Mapping organisation located in George, South Africa. VRM Africa cc was appointed as an independent professional visual impact practitioner to facilitate this VIA. I, Stephen Stead, hereby declare that VRM Africa, an independent consulting firm, has no interest or personal gains in this project whatsoever, except receiving fair payment for rendering an independent professional service.

Stephen Stead
APHP accredited VIA Specialist

1.2 Specialist report requirements in terms of Appendix 6 of the EIA Regulations (2014), as amended in 2017

Table 2: Specialist report requirements table

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended in 2017) must contain:	**Relevant section in report**
Details of the specialist who prepared the report	Stephen Stead, owner / director of Visual Resource Management Africa. steve@vrma.co.za Cell: 0835609911
The expertise of that person to compile a specialist report including a curriculum vitae	Registration with Association of Professional Heritage Practitioners
A declaration that the person is independent in a form as may be specified by the competent authority	1.1 Specialist Declaration of Independence
An indication of the scope of, and the purpose for which, the report was prepared	Terms of Reference
A description of existing impacts on the site, cumulative impacts of the proposed development and levels of acceptable change	Visual Resource Management (VRM) Classes
The duration, date and season of the site investigation and the relevance of the season to the outcome of the assessment	NA
A description of the methodology adopted in preparing the report or carrying out the specialised process inclusive of equipment and modelling used;	Methodology
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 alternative;	Baseline Visual Inventory
An identification of any areas to be avoided, including buffers	NA
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;	**Figure 13: Broad brush Physiographic** Rating Units demarcated within the defined study area.
A description of any assumptions made and any uncertainties or gaps in knowledge;	Assumptions and Limitations
A description of the findings and potential implications of such findings on the impact of the proposed activity or activities	Visual Resource Management Classes
Any mitigation measures for inclusion in the EMPr	Environmental Management Plan
Any conditions for inclusion in the environmental authorisation	NA

A specialist report prepared in terms of the Environmental Impact Regulations of 2014 (as amended in 2017) must contain:	**Relevant section in report**
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	NA
A reasoned opinion as to whether the proposed activity or portions thereof should be authorised	Conclusion
Regarding the acceptability of the proposed activity or activities; and	Conclusion
If the opinion is that the proposed activity 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	**It is recommended that the development of the solar facility with mitigation be supported as visual resources are moderated by the adjacent rail and powerline infrastructure, and exclusion of the ridgeline development would allow for reduced intervisibility to the SCC Phase 3.**
A description of any consultation process that was undertaken during the course of carrying out the study	A Basic Assessment Report containing this VIA will be subjected to a consultative process as required in terms of regulation 56 of the NEMA 2014 EIA Regulations.
A summary and copies if any comments that were received during any consultation process	Comments regarding the neighbours' concerns with regards to property values in the remote rural area were received from the EIA Scoping Phase.
Any other information requested by the competent authority.	Pending EIA I&AP process

1.3 DFFE Screening Tool Site Sensitivity Verification

In terms of Part A of the Assessment Protocols published in GN 320 on 20 March 2020, site sensitivity verification is required relevant to the DFFE Screening Tool. The screening for Landscape Solar found that no risks were mapped, but that Landscape and Visual inputs were required. A part of the verification, a site visit was undertaken on the 21 March 2022. During the survey, photographs and comments were recorded and can be viewed in Annexure A, with the associated map of the survey points.

2 EXECUTIVE SUMMARY

Visual Resource Management Africa CC (VRMA) was appointed by Ecoleges Environmental Consultants cc to undertake a ***Visual Impact Statement*** on the proposed Sun Central Cluster (SCC) Phase 2, ##400 MW Solar Photovoltaic (PV) facility and Associated Infrastructure, on behalf of Sun Central Cluster (Pty) Ltd. (Proponent). The statement is motivated on the site already have been subject to Visual Impact Assessment by Henwood Environmental in 2017. This was a broad-bush assessment for a suite of PV areas, of which the (then named) De Aar Phase 2 was one of the sites. The key Findings from the Steven Henwood VIA undertaken on 21 July 2017 are as follows: (Henwood Environmental, 2017).

Key Issues Raised

The construction and operation of the proposed Solar facility and its associated infrastructure will have a visual impact on the scenic resources of this region. The solar facility infrastructure will be visible within an area that is generally seen as having a High quality natural and scenic landscape and a resultant tourism value and potential. The infrastructure would thus be visible within an area that incorporates various sensitive visual receptors who would consider visual exposure to this type of infrastructure to be intrusive. The rocky outcrops and open space of the Greater Karoo is of scenic beauty, and the proposed solar facility is expected to transform the natural character of this area for the entire operational phase of the infrastructure. In addition, the tourism value of the region must not be overlooked, specifically its location within Greater Karoo. (Henwood Environmental, 2017)

Recommendations

The following is recommended:

- *Mitigate secondary visual impacts associated with the construction of roads by using existing roads wherever possible. Where new roads are required, these should be planned carefully, taking due cognisance of the topography. Roads should be laid out along the contour wherever possible and should never traverse slopes at 90 degrees. Construction of roads should be undertaken properly, with adequate drainage structures in place to forego potential erosion problems.*
- *Access roads which are not required post-construction or later, post decommissioning should be ripped and rehabilitated.*
- *Mitigate visual impacts associated with the construction phase, albeit temporary, through proper planning, management and rehabilitation of all construction sites.*
- *Retain a buffer (approximately 20m wide) of intact natural vegetation along the perimeter of the development area and/or along the site boundary. This measure will give some distance between the facility footprint and the visual receptors.*
- *Retain and maintain natural vegetation in all areas outside of the development footprint.*
- *After decommissioning, all infrastructure should be removed and all disturbed areas appropriately rehabilitated.* (Henwood Environmental, 2017)

Impact Assessment Findings

- In light of the results and findings of the Visual Impact Assessment undertaken for the proposed Solar facility, it is acknowledged that the natural and relatively

unspoiled wide-open views adjacent to the solar facility alignment will be transformed for the entire operational lifespan of the infrastructure.

- The potential visual impact of the infrastructure on users of national, arterial and secondary roads in close proximity to the proposed infrastructure will be of **High significance.**
- The anticipated visual impact on residents of settlements and homesteads in close proximity to the proposed infrastructure will be of **High significance**.
- Within the greater region, the potential visual impact on sensitive visual receptors (i.e. residents of settlements and homesteads) will be of **Low significance.**
- In terms of access roads, the anticipated visual impact will be of **Low significance**.
- Similarly, the visual impact of construction is also expected to be of low significance.
- In terms of secondary visual impacts, the significance of the anticipated impact on the visual character and sense of place of the region will be of **Low significance**.
- Potential visual impacts on tourist routes, tourist destinations and tourism potential within the region will be of **Moderate significance**.
- Lastly, the visual impact on sensitive topographic features within the region will be of **Moderate significance**. (Henwood Environmental, 2017)

The anticipated visual impacts listed above (i.e., post mitigation impacts) are not considered to be fatal flaws from a visual perspective, especially considering the low occurrence of visual receptors within the 10km offset. It is therefore recommended that the development of the solar facility as proposed (i.e. Alternative 2) be supported, subject to the implementation of the recommended mitigation measures and management actions. (Henwood Environmental, 2017)

Mitigations

- The primary visual impact, namely the presence of the solar facility is not possible to mitigate.
- Mitigation of visual impacts associated with the construction of access roads is possible through the use of existing roads wherever possible. Where new roads are required to be constructed, these should be planned carefully, taking due cognisance of the local topography. Roads should be laid out along the contour wherever possible and should never traverse slopes at 90 degrees. Construction of roads should be undertaken properly, with adequate drainage structures in place to forego potential erosion problems.
- Access roads which are not required post-construction or later, post decommissioning should be ripped and rehabilitated.
  (Henwood Environmental, 2017)

VRMA VISUAL STATEMENT CONCLUSION

It is the finding of this Visual Statement, that the Henderson VIA impacts and conclusions are valid. However, due to the risks of intervisibility and skyline intrusion, the small hill section of the study area has been excluded from development so that the Sun Central Cluster Phase 2 (this assessment) would not be visible to the Sun Central Cluster Phase 3 (VIA also undertaken by Visual Resource Management Africa), and the adjacent Skilpadkuil Farmstead would also be less visually exposure. This reduced intervisibility was a

recommendation of the Sun Central Cluster Phase 3 (VIA). With this mitigation, the author concurs with the following Henwood VIA finding:

"The anticipated visual impacts listed above (i.e., post mitigation impacts) are not considered to be fatal flaws from a visual perspective, especially considering the low occurrence of visual receptors within the 10km offset. It is therefore recommended that the development of the solar facility as proposed (i.e. Alternative 2) be supported, subject to the implementation of the recommended mitigation measures and management actions. "

POLICY FIT ***Medium to High***

In terms of regional and local planning, the ***expected visual/ landscape policy fit of the landscape change is rated Medium to High.*** Local and District Municipality guidelines are in favour of RE for economic development opportunities. Planning also emphasises the value of eco-tourism, but no tourism activities were located within the project Zone of Visual Influence (ZVI). The limitation to planning is that the project does not fall with a REDZ, where RE development is encouraged. However, the area is rural but the railway line and existing multiple Eskom powerlines degrade the local landscape resources to some extent. The authorised Sun Central Cluster Phase 1 PV will also change the local landscape once built.

METHODOLOGY **Bureau of Land Management's Visual Resource Management (VRM) method**

The methodology for determining landscape significance is based on the United States Bureau of Land Management's Visual Resource Management (VRM) method (USDI., 2004). This GIS-based method allows for increased objectivity and consistency by using standard assessment criteria to classify the landscape type into four VRM Classes, with Class I being the most valued and Class IV, the least. The Classes are derived from *Scenic Quality*, *Visual Sensitivity Levels*, and *Distance Zones*. Specifically, the methodology involved: site survey; review of legal framework; determination of Zone of Visual Influence (ZVI); identification of Visual Issues and Visual Resources; assessment of Potential Visual Impacts; and formulation of Mitigation Measures.

ZONE OF VISUAL INFLUENCE **Medium to High / Medium to Low with mitigation**

The visible extent, or viewshed, is "the outer boundary defining a view catchment area, usually along crests and ridgelines" (Oberholzer, 2005). In order to define the extent of the possible influence of the proposed project, a viewshed analysis was undertaken from the proposed site at a specified height above ground level. **While the viewshed does extend over a wide area, the bulk of the development can be effectively screened from eastern receptors with mitigation. Without mitigation, the ZVI is rated as Medium to High, and reduced to Medium to Low with mitigation.**

RECEPTORS AND KEY **8 Receptor locations and 1 Key Observation Point**

OBSERVATION POINTS

Key Observation Points (KOPs) are the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. **Due to topographic screening and limited views from undulating terrain, only Skilpadkuil was identified as a Key Observation Point and should be used as a location to assess the suitability of the landscape change. However, as this is a Visual Statement, a Contrast Rating and Impact Assessment is not undertaken. To ensure that visual exposure is reduced, it is recommended that the small hill area is excluded, as with the mitigation the visibility to this farmstead is reduced as depicted in Figure 11.**

SCENIC QUALITY ***Medium***

The scenic quality of the proposed development site is rated Medium. Landform is rated medium for the more prominent areas of the property as the landform shapes and sizes are moderate in scale and are interesting, though not dominant or exceptional. The lower lying areas of the grasslands is rated as low as they occupy the valley bottom that has limited landscape features. Vegetation for the entire area was rated medium to low as it is primarily covered by grasslands and, while offering some variety of vegetation, only one or two major types are visually dominant. As water features are absent or not noticeable in the landscape, scenic quality for water is rated nil. Colours in the landscape are mainly provided by the vegetation and, while there is some variety and colour contrast, this is not a dominant scenic element. Adjacent scenery is rated medium due to the undulating karoo landscape that includes low hills and wide valleys, but moderated by the railway line and powerline modifications that reduce visual quality of the locality to some degree. Landscape Scarcity is rated medium as the scenic quality of the landscape with its distinctive colour is similar to the surrounding landscape within the region. As there are no dominating manmade modifications in the landscape, the category for Cultural Modification is rated as a positive landscape element as the existing rural agricultural land use favourably enhances visual harmony and adds to the overall Scenic Quality.

RECEPTOR SENSITIVITY TO LANDSCAPE CHANGE ***Medium***

Receptor sensitivity to landscape changes is rated Medium. As the area is rural and remote with the adjacent property owners who are farmers, maintenance of visual quality was rated High for the more prominent areas of the site. Both close proximity neighbours are concerned that the proposed semi-industrial PV landscape change, will result in a reduction in property price, but are also involved in solar farming to some degree. As the area is remote, the amount of use is rated Low and with Medium regional visual resources, public interest in maintaining the site visual resources is also rated Low. Maintenance of visual quality to sustain adjacent land uses is rated Medium to High as eastern property owners have indicated concern regarding the semi-industrial type of

development in a deep rural setting. The maintenance of visual quality to sustain special area management objectives is rated Medium as the area is zoned for agricultural and is not located within a REDZ area.

EXPECTED IMPACT SIGNIFICANCE

Medium (-ve) *(without mitigation)*	Without mitigation, visual intrusion is likely to take place form the adjacent rural access road, as well as eastern receptors. The resultant intervisibility with SCC Phase 3 would also increase massing effects as seen from eastern receptors.
Low (-ve) *(with mitigation)*	With mitigation and the exclusion of the small prominent area of the low ridgeline, the ridgeline would allow for topographic screening with the two PV areas less visible. The landscape change would be less noticeable to the casual observers, as well as retain the key elements of the landscape.

CUMULATIVE EFFECTS

Medium (-ve) *(without mitigation)*	Without mitigation, the intervisibility with the adjacent north-eastern SCC Phase 3 has the potential to generate a larger, massing effect, and with development of prominent portions of the property, be more visually prominent in the local landscape.
Low (-ve) *(with mitigation)*	With mitigation, the prominent areas of the site would be excluded and intervisibility with SCC Phase 3 limited. To reduce cumulative effects, this mitigation should be implemented.

PRELIMINARY MITIGATIONS MEASURES

Landscape Element	Mitigation	Motivation
Landscape	Exclusion of ridgeline prominence.	Intervisibility with SCC Phase 3 limited, reducing cumulative effects.
PV Height Restriction	4m	Reducing intervisibility and maintaining the local landscape context so that PV panels would not be visually intrusive located on lower lying ground.

3 INTRODUCTION

Visual Resource Management Africa CC (VRMA) was appointed by Ecoleges Environmental Consultants cc to undertake a ***Visual Impact Assessment*** on the proposed Sun Central Cluster ##400 MW Solar Photovoltaic (PV) facility and Associated Infrastructure, on behalf of Sun Central Cluster (Pty) Ltd. (Proponent). The site visit was undertaken on the 21 March 2022. The proposed development site is located in the Northern Cape Province, Pixley Ka Seme District Municipality and Emthanjeni Local Municipality. The Proponent proposes to construct a Photovoltaic (PV) solar energy facility and associated infrastructure on the Remainder of Farm Goede Hoop 26C and Portion 3 of Farm Goede Hoop 26C, between De Aar & Hanover. This assessment is for the Phase 2 of the proposed development and does not include grid infrastructure.

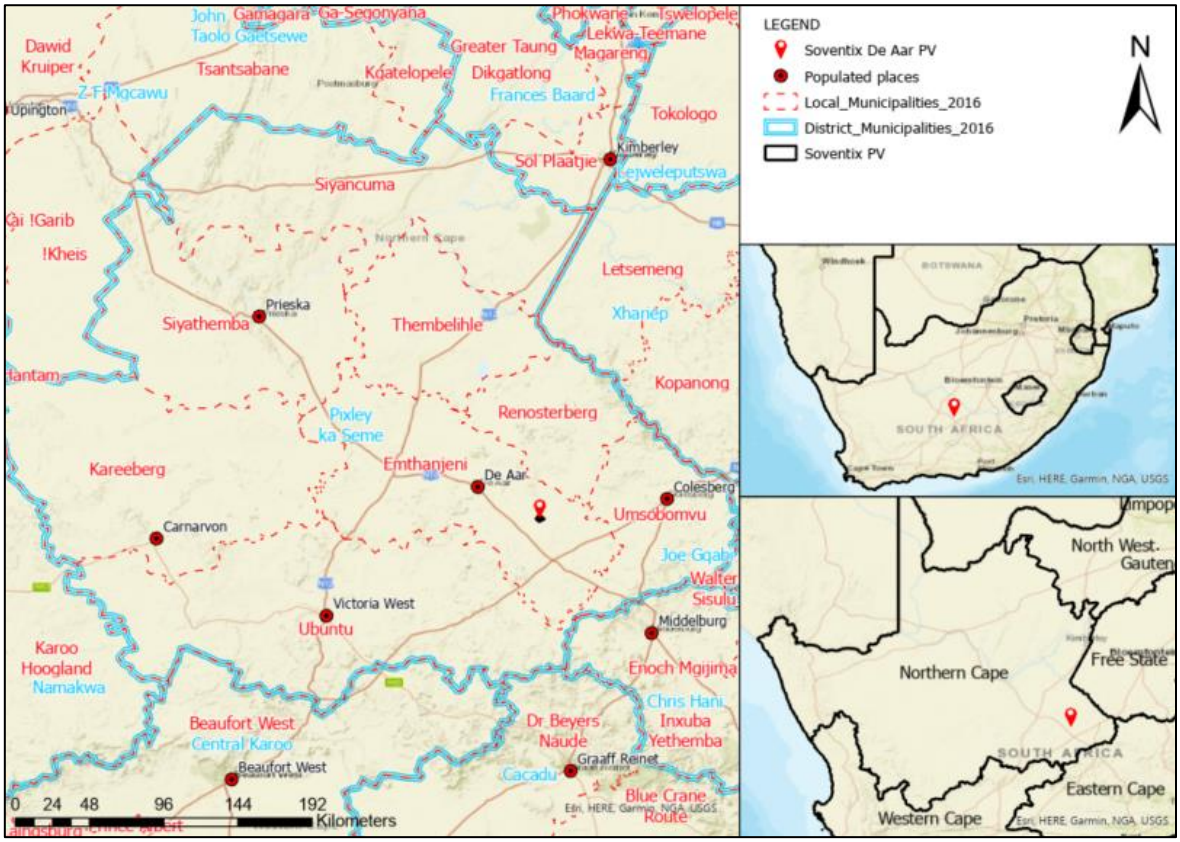


Figure 1: National and regional locality map.

3.1 Terms of Reference

The scope of this study is to cover the entire proposed project area. The broad terms of reference for the study are as follows:

- Do a desktop study of studies undertaken during the initial baseline study undertaken in 2017.
- Describe the status (baseline) of the environment that was assessed during the initial assessment.
- Compare and contrast the findings of the Baseline assessment with the findings of the Henwood VIA.
- Make recommendations to ensure that the proposed Sun Central Cluster Phase 2 PV project does not result in intervisibility that would increase the potential for

negative Cumulative effects from massing effects.

3.2 Study Team

Contributors to this study are summarised in the table below.

Table 3: Authors and Contributors to this Report.

Aspect	Person	Organisation / Company	Qualifications
Landscape and Visual Assessment (author of this report)	Stephen Stead B.A (Hons) Human Geography, 1991 (UKZN, Pietermaritzburg)	VRMA	• Accredited with the Association of Professional Heritage Practitioner and • 20 years of experience in visual assessments including renewable energy, Power lines, roads, dams across southern Africa. • Registered with the Association of Professional Heritage Practitioners since 2014.

3.3 Visual Assessment Approach

The full methodology used in the assessment can be found in Annexure B, with this section outlining the key elements of the assessment process. The process that VRM Africa follows when undertaking a VIA is based on the United States Bureau of Land Management's (BLM) Visual Resource Management method (USDI., 2004). This mapping and GIS-based method of assessing landscape modifications allows for increased objectivity and consistency by using standard assessment criteria.

- *"Different levels of scenic values require different levels of management. For example, management of an area with high scenic value might be focused on preserving the existing character of the landscape, and management of an area with little scenic value might allow for major modifications to the landscape. Determining how an area should be managed first requires an assessment of the area's scenic values".*
- *"Assessing scenic values and determining visual impacts can be a subjective process. Objectivity and consistency can be greatly increased by using the basic design elements of form, line, colour, and texture, which have often been used to describe and evaluate landscapes, to also describe proposed projects. Projects that repeat these design elements are usually in harmony with their surroundings; those that don't create contrast. By adjusting project designs so the elements are repeated, visual impacts can be minimized"* (USDI., 2004).

Baseline Phase Summary

The VRM process involves the systematic classification of the broad-brush landscape types within the receiving environment into one of four VRM Classes. Each VRM Class is associated with management objectives that serve to guide the degree of modification of the proposed site. The Classes are derived by means of a simple matrix with the three variables being the scenic quality, the expected receptor sensitivity to landscape change,

and the distance of the proposed landscape modification from key receptor points. The Classes are not prescriptive and are utilised as a guideline to determine visual carrying capacity, where they represent the relative value of the visual resources of an area. Classes I and II are the most valued, Class III represents a moderate value; and Class IV is of least value. The VRM Classes are not prescriptive and are used as a guideline to determine the carrying capacity of a visually preferred landscape as a basis for assessing the suitability of the landscape change associated with the proposed project.

Table 4: VRM Class Matrix Table

		VISUAL SENSITIVITY LEVELS								
		High			Medium			Low		
SCENIC QUALITY	A (High)	II	II	II	II	II	II	II	II	II
	B (Medium)	II	III	III/ IV *	III	IV	IV	IV	IV	IV
	C (Low)	III	IV	IV	IV	IV	IV	IV	IV	IV
DISTANCE ZONES		Fore/middle ground	Background	Seldom seen	Fore/middle ground	Background	Seldom seen	Fore/middle ground	Background	Seldom seen

* If adjacent areas are **Class III** or lower, assign **Class III**, if higher, assign **Class IV**

The visual objectives of each of the classes are listed below:

- The Class I objective is to preserve the existing character of the landscape and the level of change to the characteristic landscape should be very low and must not attract attention. Class I is assigned when a decision is made to maintain a natural landscape.
- The Class II objective is to retain the existing character of the landscape and the level of change to the characteristic landscape should be low. The proposed development may be seen but should not attract the attention of the casual observer, and should repeat the basic elements of form, line, colour and texture found in the predominant natural features of the characteristic landscape.
- The Class III objective is to partially retain the existing character of the landscape, where the level of change to the characteristic landscape should be moderate. The proposed development may attract attention, but should not dominate the view of the casual observer, and changes should repeat the basic elements found in the predominant natural features of the characteristic landscape; and
- The Class IV objective is to provide for management activities that require major modifications of the existing character of the landscape. The level of change to the landscape can be high, and the proposed development may dominate the view and be the major focus of the viewer's (s') attention without significantly degrading the local landscape character.

Impact Phase Summary

To determine impacts, a degree of contrast exercise is undertaken. This is an assessment of the expected change to the receiving environment in terms of the form, line, colour and

texture, as seen from the surrounding Key Observation Points. This determines if the proposed project meets the visual objectives defined for each of the Classes. If the expected visual contrast is strong, mitigation recommendations are to be made to assist in meeting the visual objectives. To assist in the understanding of the proposed landscape modifications, visual representation, such as photomontages or photos depicting the impacted areas, can be generated. There is an ethical obligation in the visualisation process, as visualisation can be misleading if not undertaken ethically.

3.4 VIA Process Outline

The following approach was used in understanding the landscape processes and informing the magnitude of the impacts of the proposed landscape modification. The table below lists a number of standardised procedures recommended as a component of best international practice.

Table 5: Methodology Summary Table

Action	***Description***
Site Survey	The identification of existing scenic resources and sensitive receptors in and around the study area to understand the context of the proposed development within its surroundings to ensure that the intactness of the landscape and the prevailing sense of place are taken into consideration.
Project Description	Provide a description of the expected project, and the components that will make up the landscape modification.
Reviewing the Legal Framework	The legal, policy and planning framework may have implications for visual aspects of the proposed development. The heritage legislation tends to be pertinent in relation to natural and cultural landscapes, while Strategic Environmental Assessments (SEAs) for renewable energy provide a guideline at the regional scale.
Determining the Zone of Visual Influence	This includes mapping of viewsheds and view corridors in relation to the proposed project elements, in order to assess the zone of visual influence of the proposed project. Based on the topography of the landscape as represented by a Digital Elevation Model, an approximate area is defined which provides an expected area where the landscape modification has the potential to influence landscapes (or landscape processes) or receptor viewpoints.
Identifying Visual Issues and Visual Resources	Visual issues are identified during the public participation process, which is being carried out by others. The visual, social or heritage specialists may also identify visual issues. The significance and proposed mitigation of the visual issues are addressed as part of the visual assessment.
Not Included	
Assessing Potential Visual Impacts	An assessment is made of the significance of potential visual impacts resulting from the proposed project for the construction, operational and decommissioning phases of the project. The rating of visual significance is based on the methodology provided by the Environmental Assessment Practitioner (EAP).

Action	*Description*
Formulating Mitigation Measures	Possible mitigation measures are identified to avoid or minimise negative visual impacts of the proposed project. The intention is that these would be included in the project design, the Environmental Management Programme report (EMPr) and the authorisation conditions.

3.5 Impact Assessment Methodology

The following impact criteria were used to assess visual impacts. The criteria were defined by the Western Cape *DEA&DP Guideline for involving Visual and Aesthetic Specialists in EIA Processes* (Oberholzer, 2005).

Table 6. DEA&DP Visual and Aesthetic Guideline Impact Assessment Criteria Table.

Criteria	Definition
Extent	The spatial or geographic area of influence of the visual impact, i.e.: • *site-related:* extending only as far as the activity. • *local:* limited to the immediate surroundings. • *regional:* affecting a larger metropolitan or regional area. • *national:* affecting large parts of the country. • *international:* affecting areas across international boundaries.
Duration	The predicted life-span of the visual impact: • *short term,* (e.g., duration of the construction phase). • *medium term,* (e.g., duration for screening vegetation to mature). • *long term,* (e.g., lifespan of the project). • *permanent,* where time will not mitigate the visual impact.
Intensity	The magnitude of the impact on views, scenic or cultural resources. • *low,* where visual and scenic resources are not affected. • *medium,* where visual and scenic resources are affected to a limited extent. • *high,* where scenic and cultural resources are significantly affected.
Probability	The degree of possibility of the visual impact occurring: • *improbable,* where the possibility of the impact occurring is very low. • *probable,* where there is a distinct possibility that the impact will occur. • *highly probable,* where it is most likely that the impact will occur. • *definite,* where the impact will occur regardless of any prevention measures.
Significance	The significance of impacts can be determined through a synthesis of the aspects produced in terms of their nature, duration, intensity, extent and probability, and be described as: • *low,* where it will not have an influence on the decision.

	• *medium,* where it should have an influence on the decision unless it is mitigated. • *high,* where it would influence the decision regardless of any possible mitigation.

3.6 Assumptions and Uncertainties

- Digital Elevation Models (DEM) and viewsheds were generated using ASTER elevation data (NASA, 2009). Although every effort to maintain accuracy was undertaken, as a result of the DEM being generated from satellite imagery and not being a true representation of the earth's surface, the viewshed mapping is approximate and may not represent an exact visibility incidence. Thus, specific features identified from the DEM and derive contours (such as peaks and conical hills) would need to be verified once a detailed survey of the project area has taken place.
- The use of open-source satellite imagery was utilised for base maps in the report.
- Some of the mapping in this document was created using Bing Maps, Open-Source Map, ArcGIS Online and Google Earth Satellite imagery.
- The project deliverables, including electronic copies of reports, maps, data, shape files and photographs are based on the author's professional knowledge, as well as available information.
- VRM Africa reserves the right to modify aspects of the project deliverables if and when new/additional information may become available from research or further work in the applicable field of practice or pertaining to this study.
- As access to farms and private property is often limited due to security reasons, limiting access to private property in order that photographs from specific locations are taken. 3D modelling is used to reflect the expected landscape change area where applicable.
- Mapping makes use of the SANI BGIS webmap (SANBI, 2018)

4 PROJECT DESCRIPTION

The following table outlines the project information that was provided by the client that will be incorporated into the assessment and proposed infrastructure relating to the project.

Table 7: Project Information Table

PROPONENT SPECIFICATIONS	
Applicant Details	**Description**
Applicant Name:	Sun Central Cluster Pty (Ltd)
Project Name:	Sun Central Cluster ##400 MW Phase 2 Solar Photovoltaic Facility and associated infrastructure ##

Table 8: Project Description Table

TECHNOLOGY DETAILS

PV System	The PV system is made up of the following components: solar panels or modules are connected to form arrays. The arrays are mounted onto a single-axis tracker and supported by steel or aluminium racks approximately 9.5 m apart. The panels would only incline to a position of 50 degrees when facing East and West. At full tilt the ground clearance will be 0.6 m with a **maximum height of 4 m** (3.4 m +0.6 m). Several arrays are then connected to an inverter. Approximately ##2000 inverters will be cabled to ## field transformers (twenty-five inverters are connected to a field transformer). The field transformers then transfer and increase (step up) the voltage of the alternating-current circuit to Eskom's electrical grid. Some of the underground cables from the field transformers to the on-site substation may cross a watercourse (**S21(c) and (i)**). The current land use is sheep farming, which will continue within the solar PV facility to ensure minimal reduction (if any) on the agricultural potential of the land as well as a management tool to control vegetation growth.
On-site Substation and Distribution Line	The solar PV facility will be connected to Eskom's electrical grid via an onsite substation and a 66 to 132 kV overhead distribution line. The distribution line is approximately 20 m high, and the servitude width is approximately 32 m. The planned 66 kV to 132 kV distribution line will intersect an existing Eskom distribution line; Bletterman/Taaibos 1, 132 kV Overhead Line. A 10 to 15 m lightning mast will be erected within proximity to the on-site substation.
Lighting	The facility will not be lit up at night. The fence line will be secured using multiple FLIR PTZ cameras which have a 2 km range in absolute darkness (pers. comm. JP De Villiers, Managing Director Sun Central Cluster). The obvious areas that would have lights is the control and security office, as well as the on-site substation, as it is a legal requirement.
Fencing	The facility will be fenced off with a galvanised diamond razor mesh security fence. The fence is embedded 300 mm into the ground and is 1.8 m high. Access will be controlled using a security gate. A 4 to 5 m-wide fire break road, comprising a two-track dirt road with mowed vegetation will be created inside the perimeter fence.
Construction	Heavy delivery vehicles will use the same staging area as for Phase 1 and 2. Materials, machinery and equipment will then be transferred onto lighter vehicles so that they can pass underneath Transnet's railway line unhindered and transported to the laydown area in the construction camp. No accommodation facilities will be provided at the construction camp. Staff will be required to leave the site at the end of the day. It is anticipated that the construction equipment will include at least: Water tankers, Graders, Tipper trucks, Drilling rigs, Mobile pile ramming machines, Excavators, TLBs, Concrete mixers, Compaction equipment, Light delivery vehicles, and Heavy delivery vehicles (for the transformers).

Vegetation Clearance	Vegetation will be cleared from the physical footprint of the construction camp (no more than 4 ha including laydown area), inverters, field transformers, on-site substation, rack foundations, pylon footings, underground cables and water pipes, roads (circa 400 km), a fire-break road and fencing posts, operational area (1 ha, but within the construction camp footprint), borrow pit (no more than 2 ha), water storage tanks and deionization plant(s).

(www.hawaiirenewableenergy.org/Villamesias2, n.d.)

(Junior Mining Network, n.d.)

Figure 2: Photographic example of what the proposed PV Facility could look like as fixed and single portrait model on a tracker.

(Source: Jawatha, India. www.nccprojects.com)

Figure 3. Example of Monopole photographic examples that are associated with Solar PV projects but are ***not included in this assessment***

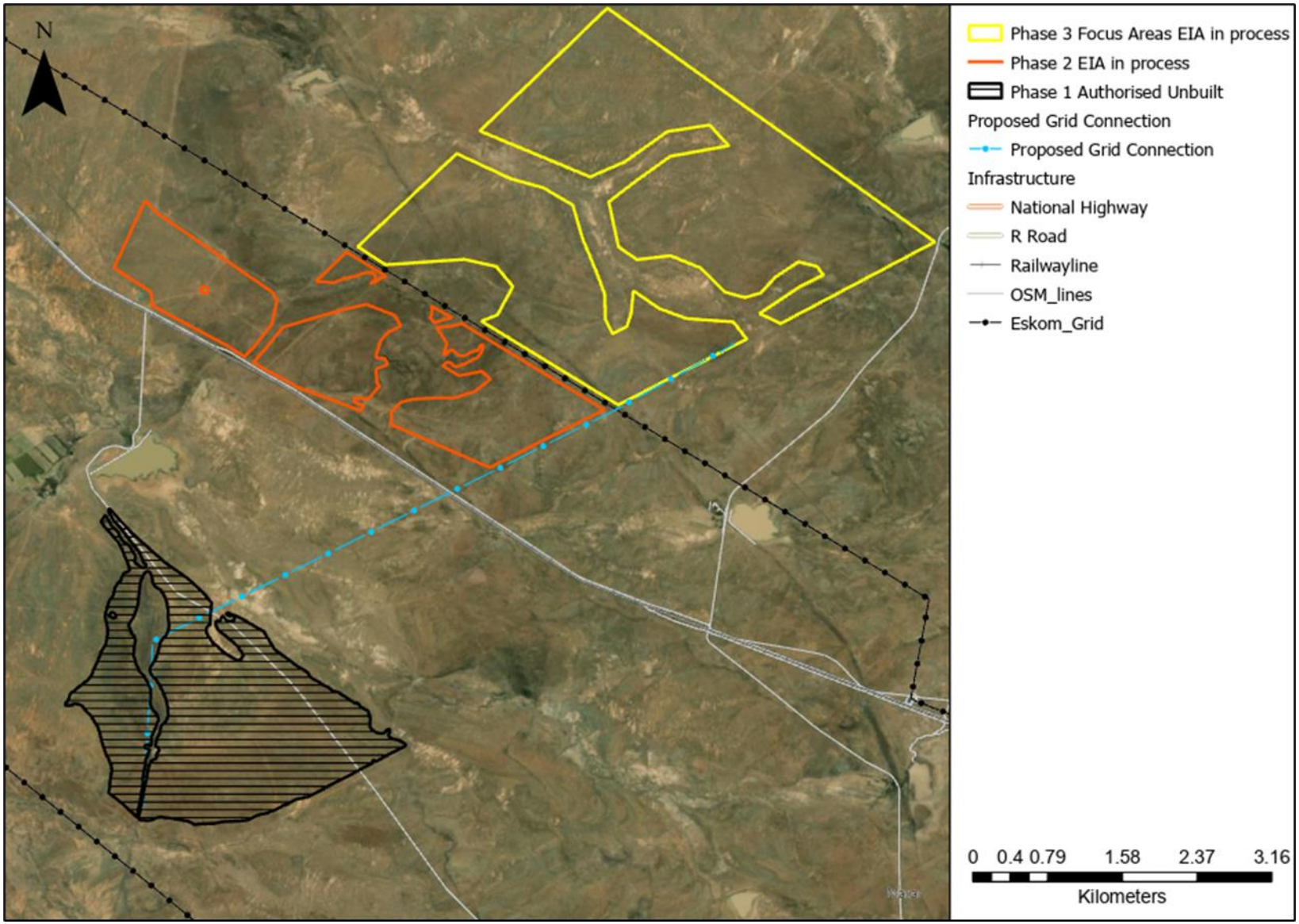


Figure 4: Proposed layout plan map.

5 LEGAL FRAMEWORK

In order to comply with the Visual Resource Management requirements, it is necessary to relate the proposed landscape modification in terms of international best practice in understanding landscapes and landscape processes. The proposed project also needs to be evaluated in terms of 'policy fit'. This requires a review of International, National and Regional best practice, policy and planning for the area to ensure that the scale, density and nature of activities or developments are harmonious and in keeping with the planned sense of place and character of the area.

5.1 National and Regional Legislation and Policies

In order to comply with the Visual Resource Management requirements, it is necessary to clarify which National and Regional planning policies govern the proposed development area to ensure that the scale, density and nature of activities or developments are harmonious and in keeping with the sense of place and character of the area.

5.1.1 Other Renewable Energy Projects

Numerous other renewable energy projects are located in the region around the town of De Aar as mapped in Figure 5 below. The cluster of PV projects around the town of De Aar to the northwest of the project are located further than 12km where the intervisibility would not take place. However, also visible from the property, are the wind farm lights at night from the Maanhaarberg Wind Farm located 27km to the north. Set in the background, this effect is limited and, as PV does not require Aircraft Warning Lights at Night (ALW), intervisibility of lights at night is likely to have a limited effect. Another wind farm is also proposed, Oasis Wind Farm, located 14km to the north. Should the Oasis WEF be developed, a stronger RE for wind farming will be set in place for lights at night, with the wind turbines more clearly visible in the landscape. However, due to the 14km distance, this is unlikely to significantly degrade local landscape resources. In terms of PV projects, the Inyanga Energy Project 2 is located approximately 13km to the northwest of the site. With the EIA undertaken by Savanah Environmental, the REEA database lists this process as Lapsed.

In terms of local landscape proximity, the only project listed on the DFFE database is 12/12/20/2258/4, referring to the Sun Central Cluster PV Phase 1 that has status Authorised but remains unbuilt. This project is located 2.3km to the southwest of the Phase 2 study area, with the Phase 3 PV project (EIA in process) located adjacent to the site to the north-east with a low ridgeline separating the two projects, therefore massing effects from multiple PV project visible from a single location is reduced. Due to the close proximity of Phase 2 and Phase 3 projects with a low ridgeline in between, a wrap over visual effect would transpire if a suitable setback on the ridgeline is not implemented that would result in higher levels of visual intrusion as the two projects will be viewed as a single element in the landscape. While this would not be a risk to western areas along the railway line, as seen from eastern areas, there is potential for some landscape risk as these areas have higher levels of scenic quality that should be maintained. The ridgeline location between the two projects does create the opportunity to allow for visual buffering. To reduce localised massing effects from the authorised Sun Central Cluster PV Phase 2 and Phase 3 (in assessment), buffers between the different projects should be maintained, especially on more prominent areas.

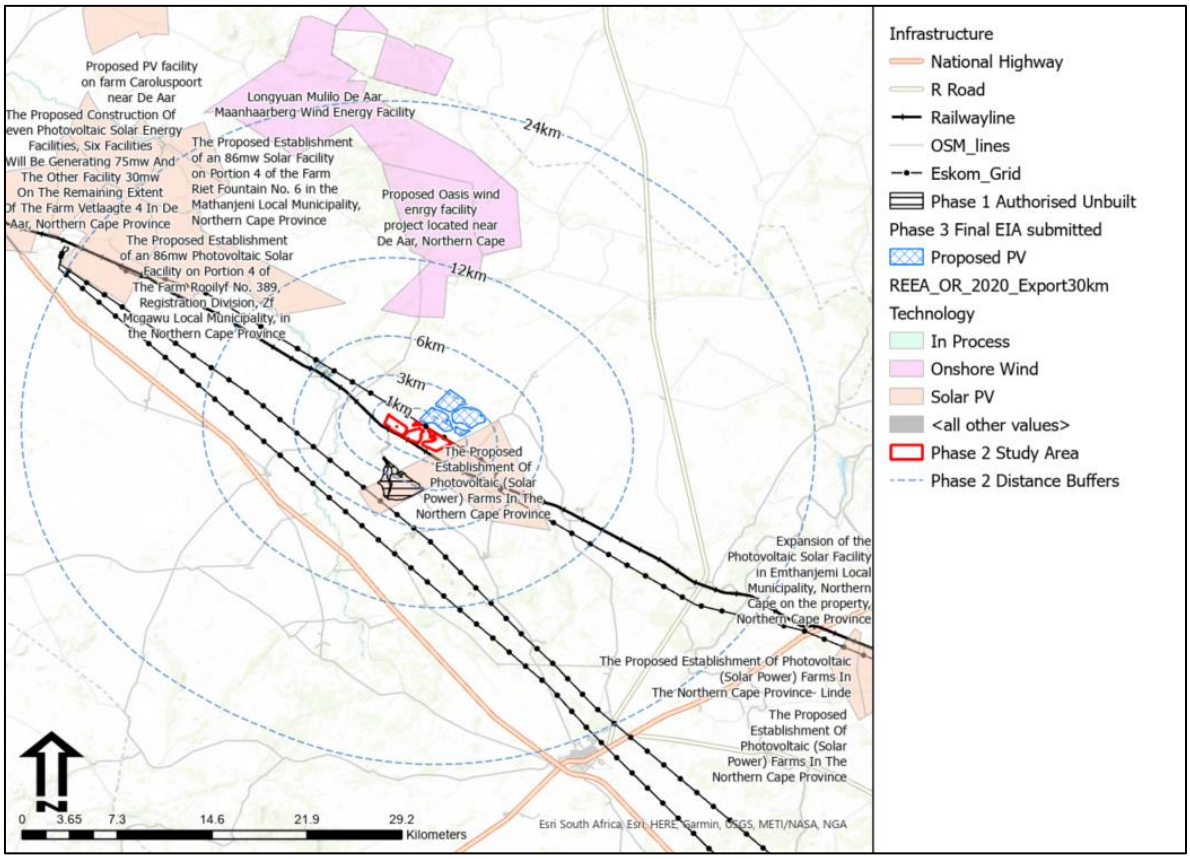


Figure 5: Map depicting DEA Renewable Energy project status.

5.1.2 Nature and Tourism Activities

As depicted in Figure 5 above the nearest Nature Reserves to the proposed project are the De Aar Nature Reserve to the northwest and the Karoo Gariep Nature Reserve to the east. Both of these conservation areas are located outside of the project viewshed. Eco-tourism is emphasised in the local and regional planning, but no tourist related activities or tourist view corridors were located within the project viewshed.

5.1.3 Local and Regional Planning

The following tables list key regional and local planning that has relevance to the project pertaining to landscape-based tourism, and renewable energy projects.

Table 9: Pixley ka Seme District Municipality IDP 2022

Theme	Requirements	Page
Opportunities	• Eco Tourism • Solar and Wind Farms • Position of being strategically situated (National Roads) • SKA	12
Biophysical Context	• Possible demand for development that will influence the transformation of land uses • SKA • Renewable Energy	34

Theme	Requirements	Page
Renewable Energy	Potential and impact of in renewable energy resource generation	45
	South Africa has embarked in a process of diversifying its energy-mix to enhance energy security while also lowering green-house gas emissions. The country is blessed with a climate that allows Renewable Energy (RE) technologies like solar photovoltaic (PV) and Wind generation to be installed almost anywhere in the country. By successfully attracting a share of the IPPPP portfolio investment, Emthanjeni, Siyathemba, Ubuntu and Renosterberg and Umsobomvu, is benefitting from substantial socio-economic development (SED) and Enterprise development (ED) contributions leveraged by the IPPPP commitments.	75

(Pixley ka Seme District Municipality, 2022)

Table 10: Emthanjeni Municipality IDP 2007

Theme	Requirements	Page
Mission	• To create a viable economic development plan that is relevant to the characteristics of the Emthanjeni Municipal area, designed to create and maintain a sound and healthy local economy, drawing upon local strengths and resources. • Emthanjeni Municipality, specifically De Aar, is the seat of Pixley ka Seme District Municipality which hosts all Government Departments	Pg 33
Energy Consumption	The Karoo area is dependent upon boreholes for its water supply. Energy consumption will potentially also increase by 10% and a similar strategy for alternative energy will have to be identified for both cooling in summer and heat in winter. The alternative of solar energy will be needed to reduce pressure placed on the existing grid.	Pg 34
Renewable Energy	Emthanjeni has in recent time seen the influx of investment in renewable energy projects and is a potential industrial growth point with ample industrial sites, reasonable prices and tariffs, affordable labour and the necessary infrastructure.	Pg 46
Economic Development/ Tourism	Other future planning and projects which Emthanjeni will concentrate on to increase Economic Development include the Development of N10 Corridor, linked to the National Solar Corridor (Northern Cape) These thrusts are aimed at exploring the potential of Emthanjeni Local Municipality to become a leading tourism destination.	Pg 56

(Emthanjeni Municipality, 2007)

Table 11: Emthanjeni Municipality Spatial Development Framework (SDF) 2007

Theme	Requirements	Page
Environment	It is the intention of the SDF to arrange development activities and the built environment in such a way and manner that it can accommodate and implement ideas and desires of people without compromising the natural environment.	Pg 1
Industry	The industrial area of De Aar is located to the eastern side of the railway lines, north-east of the CBD of the town. This area was developed in this specific location, due to the development potential that the railway intersections in De Aar provided.	Pg 7
Tourism	The farms alongside the N1, the N10 and the N12 have all started to open guesthouses on the farms for tourists in order to provide a sleepover location for people traveling from the north to the south and vice versa.	Pg 12

(Emthanjeni Municipality)

5.2 Landscape Planning Policy Fit

Policy fit refers to the degree to which the proposed landscape modifications align with International, National, Provincial and Local planning and policy.

In terms of *international best practice*, the proposed landscape modification will not trigger any issues as there are no significant landscape/ cultural landscape features within the project area there were no significant cultural/ landscape visual resources found on the site or immediate surrounds that are flagged by international landscape guidelines.

In terms of regional and local planning, the ***expected visual/ landscape policy fit of the landscape change is rated Medium to High.*** Local and District Municipality guidelines are in favour of RE for economic development opportunities. Planning also emphasises the value of eco-tourism, but no tourism activities were located within the project Zone of Visual Influence (ZVI). The limitation to planning is that the project does not fall with a REDZ, where RE development is encouraged. However, the area is rural but the railway line and existing multiple Eskom powerlines degrade the local landscape resources to some extent. The authorised Sun Central Cluster Phase 1 PV will also change the local landscape once built.

6 BASELINE VISUAL INVENTORY

Landscape character is defined by the U.K. Institute of Environmental Management and Assessment (IEMA) as the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people. It reflects particular combinations of geology, landform, soils, vegetation, land use and human settlement'. It creates the specific sense of place or essential character and 'spirit of the place' (IEMA, 2002). This section of the VIA identified the main landscape features that define the landscape character, as well as the key receptors that make use of the visual resources created by the landscape.

6.1 Key Landscape Features defining the Local Landscape Context

De Aar is a primary commercial distribution centre for a large area of the central Great Karoo. Major production activities include wool production, livestock farming and is part of the Green Kalahari initiative *(www.de-aar.co.za)*. The region has some of the highest renewable energy resource levels in the world, with good existing road infrastructure and accessibility to the national grid. The De Aar PV projects are not within the proposed project ZVI, with only the Sun Central Cluster located in the immediate landscape.

The proposed Sun Central Cluster Phase 2 Solar Facility is located 37 km southeast of the town of De Aar in the Northern Cape Province of South Africa, with the nearest town of Hanover located 22km to the southeast of the study area. Within the regional context, the property is located in a rural karoo landscape predominantly related to low intensity sheep farming. General land uses of the area are described making use of Open Source Mapping vector data, overlaid onto ArcGIS World Satellite Imagery.

As mapped in Figure 6 below, the key landscape themes within the Foreground / Middle Ground (6km) distance are tabled on the following page.

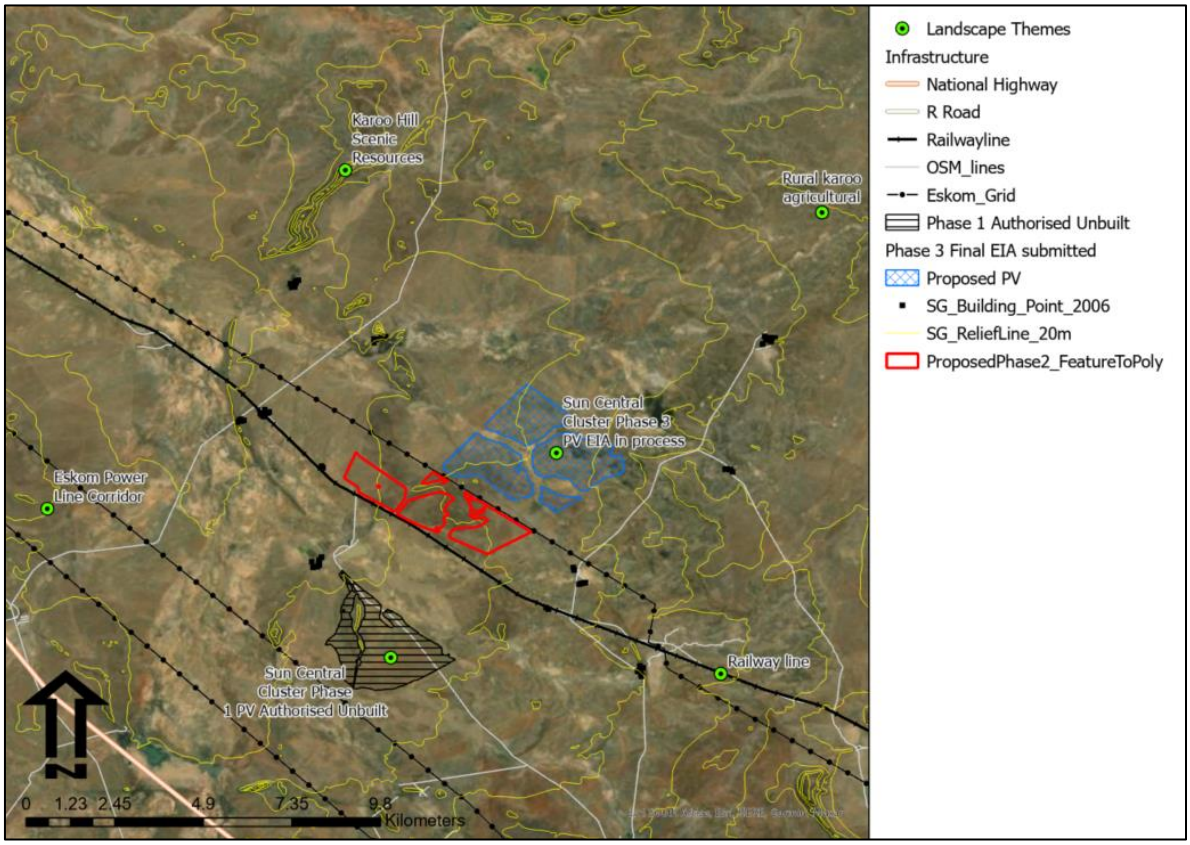
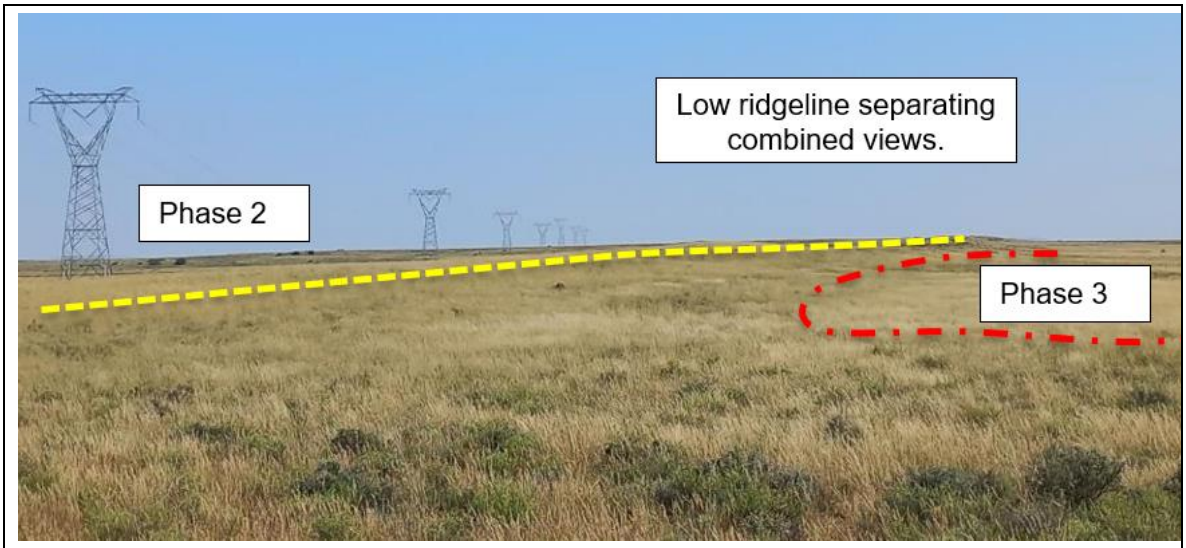


Figure 6. Local landscape themes map.

Table 12:Key Landscape Themes

Theme	Description
Karoo Hill scenic Resource	The northern and eastern areas around the project area have higher levels of scenic quality, with the existing powerline and railway line degrading local landscape resources to some degree.

	
Power line and railway line corridor	As mentioned, the site is located adjacent to a railway line as well as a powerline corridor.
	
PV Authorised (unbuilt)	The Sun Central Cluster Phase 1 PV has been authorized but remains unbuilt. This site is located to the southeast of the assessment site but does fall within the zone of visual influence. The Sun Central Cluster Phase 3 PV is located adjacent to the east with the VIA undertaken by the author. Recommendations were to use the low ridgeline to reduce the intervisibility of the two PV projects so that less massing effects would take place.



Rural Karoo Agricultural	The majority of the area surrounding the assessment site is used for sheep farming and has limited man-made modifications. As such, the area does depict an iconic karoo landscape that does have scenic value. The landscape resources are not utilized as a visual resource and no tourist related activities were located within the project zone of visual influence.

6.2 Vegetation

Vegetation type is a large factor in determining the scenic quality or the site in terms of colour and texture, as well as influencing the local ability of the landscape to absorb the landscape change. The map below outlines the vegetation type based on BGIS mapping (South African National Biodiversity Institute, 2018).

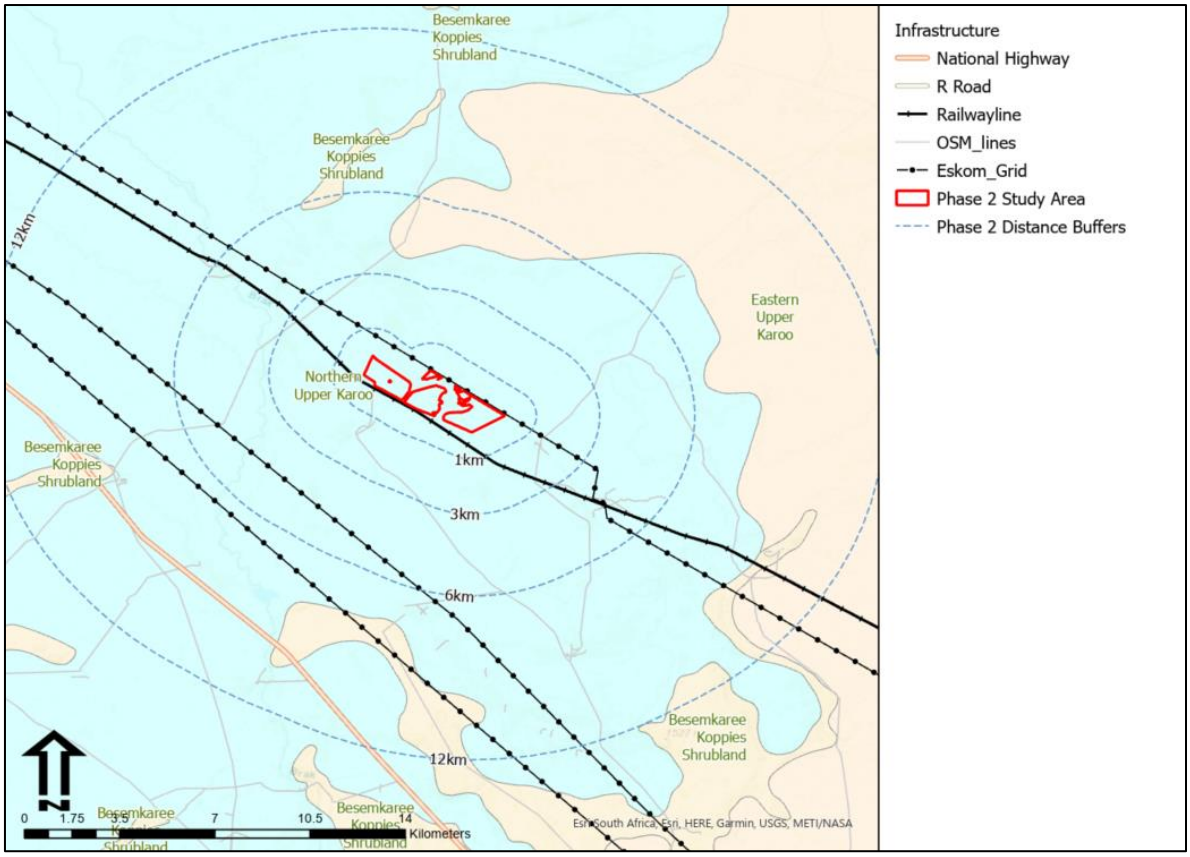


Figure 7. BGIS Biome and Vegetation Type Map (South African National Biodiversity Institute, 2018)

The De Aar area falls within the Nama Karoo biome. The Nama-Karoo Biome occurs on the central plateau of the western half of South Africa, at altitudes between 500 and 2000m, with most of the biome failing between 1000 and 1400m. It is the second-largest biome in the region. According to the SANBI Plantzafrica website, the project area falls within the Northern Upper Karoo vegetation type. This vegetation type is characterised by shrubland, dominated by dwarf karoo shrubs, grasses and *Acacia mellifera* subsp. *Detinens*. The conservation status is indicated as “least threatened”. Although none of this vegetation type is conserved in statutory conservation areas, very little has been cleared for cultivation or irreversibly transformed through human settlement or infrastructure development.

Given the nature of the low-growing vegetation on the site, and the nature of the installation, there is little to no opportunity for visual screening presented by indigenous vegetation on the site, nor would it be possible to cultivate an effective vegetation screen, due to the constraints of climate and soils.

6.3 Landscape Topography

Landform is a key variable informing the aesthetic nature of the landscape within the VRM methodology. The viewshed is strongly associated with the regional topography where topographic screening from undulating terrain would restrict views of the proposed landscape change. The site-specific characteristics are also analysed by gradient analysis to determine if any steep slopes are located on the proposed development site.

6.3.1 Regional Landscape Topography

Making use of the NASA STRM digital elevation model, profile lines were generated for the area on either side of the project area. The map depicting the regional elevation profile lines locality overlay onto the regional Digital Elevation Model can be viewed in Figure 8 below, with the graphs depicting North-South and West-East profile lines located below the map.

The regional topography is flat to gently undulating rising towards defined ridgelines, with higher elevation terrain located at the 20km distance where wind farming is taking place. Within the immediate regional topographic context (.i.e within a 6km radius of the site), the minimum elevation is 1300 mamsl located to the northwest where the terrain drains into a shallow valley, with a maximum elevation of around 1420 mamsl located roughly 7km to the southwest of the site. This high ground acts as a regional watershed (at ~1400 mamsl) dividing the hydrological flows east and west.

As depicted on the North to South Profile, the site is located on the south facing slopes of the small ridgeline at an elevation of approximately 1340 mamsl. Within the greater topographical context, the site is relatively low in elevation and creates screening from high ground to the north and south within 6km distance, restricting the viewshed to the Mid-ground Distance area. Of relevance to the project and cumulative effects from intervisibility, the 20m small ridgeline that lies to the west has the potential to effectively topographically screen the Sun Central Cluster PV Phase 3 located on the other side of the ridgeline. Care needs to be taken to ensure that sections of the PV that would allow for intervisibility are minimised.

The West to East Profile depicts the site lying on the west facing slopes of a shallow ridgeline, but with the valley area to the west more pronounced, and the eastern high ground more dominant. The viewshed to the west is likely to extend further over lower lying terrain, with the views to the east contained by higher ground.

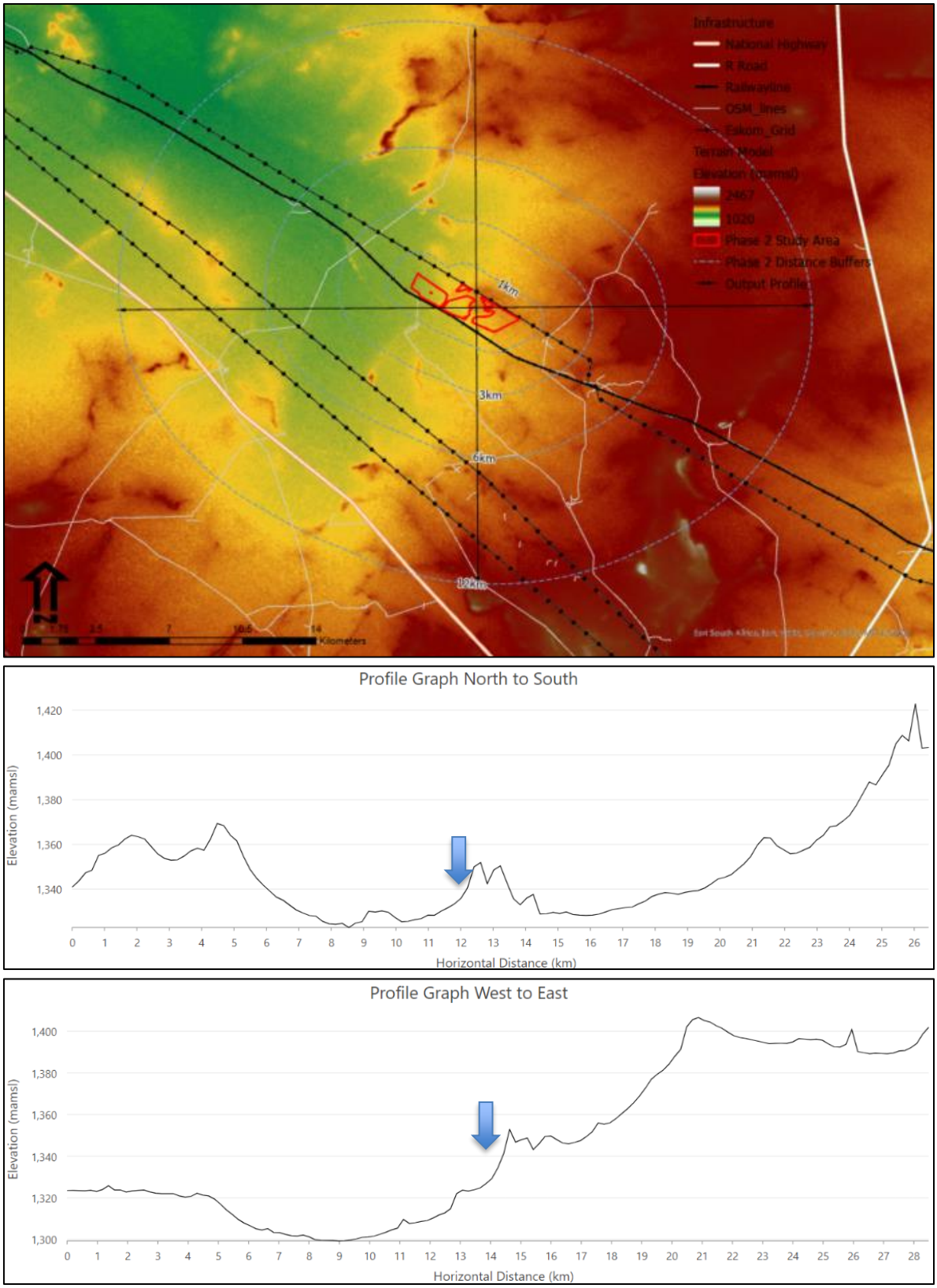


Figure 8: Regional Terrain Model and Elevation Profiles East to West and North to South profiles.

6.3.2 Key topographic features and slopes analysis

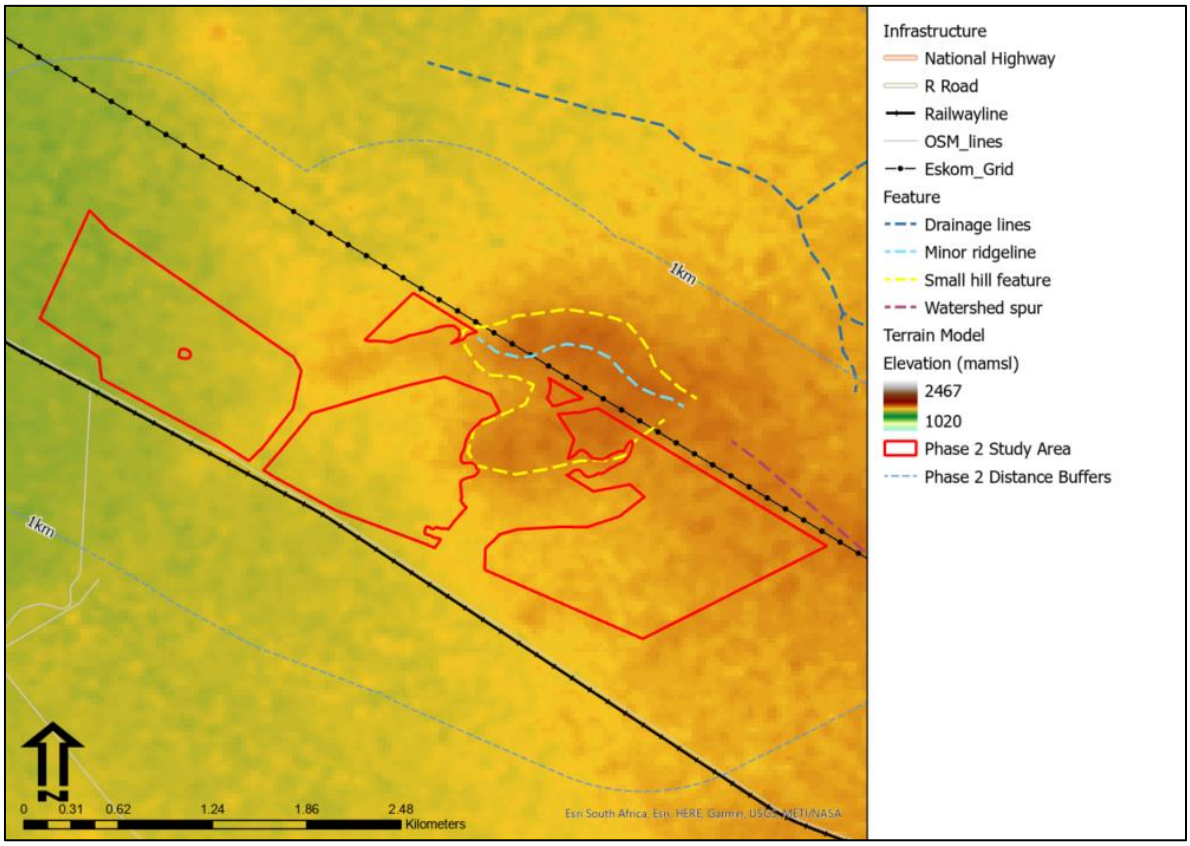


Figure 9: Study area in relation to key topographic landforms.

As depicted in the map above, landforms on the site include:

- Minor ridgelines
- As highlighted by the DFFE SSV mapping, buffering of the single prominent ridgeline located outside of the study area, but forming a prominent landform feature that aligns with the northern border of the study area.
- A small hill feature to the west of the site with a low ridgeline that runs within the study area along the southern boundary.

Drainage lines have already been excluded from the development area, as well as portions of the low hill to the west. To reduce the massing effects created by the location of the adjacent Phase 3, the low ridgeline between the two projects should be excluded from development to allow for visual buffering.

6.4 Project Zone of Visual Influence

The visible extent, or viewshed, is “the outer boundary defining a view catchment area, usually along crests and ridgelines” (Oberholzer, 2005). In order to define the extent of the possible influence of the proposed project, a viewshed analysis was undertaken from the proposed site at a specified height above ground level as indicated in the table below. This is to define the ***theoretical extent*** where the proposed landscape change could be visible from. This theoretical viewshed excludes vegetation, structural development as well as distance from the location where atmospheric influence would reduce visual clarity over increasing distance. The viewshed analysis makes use of open-source NASA ASTER Digital Elevation Model data (NASA, 2009).

The extent of the viewshed analysis was restricted to a defined distance that represents the approximate zone of visual influence (ZVI) of the proposed activities, which takes the scale, and size of the proposed projects into consideration in relation to the natural visual absorption capacity of the receiving environment. The maps are informative only as visibility tends to diminish exponentially with distance, which is well recognised in visual analysis literature (Hull & Bishop, 1988). Based on the theoretical viewshed and the site visit appraisal of the nature of the landscape, an assessment of the ***Zone of Visual Influence (ZVI)*** is made. The ZVI is the area where the proposed landscape change is most likely to be noticed by the casual observer, taking the site visit into account where vegetation, existing development and distance is taken into consideration. This is a subjective appraisal but informed by the viewshed and the other factors mentioned.

6.4.1 Viewshed Analysis

A viewshed analysis was undertaken for the site making use of NASA SRTM 30m Digital Elevation Model data. The Offset value for the Phase 2 Solar Facility was set at 4m above ground to represent the approximate height of the proposed development as reflected in the table below.

Table 13: Proposed Project Heights Table

Proposed Activity	**Approx. Height (m)**	**Terrain Model Extent**
PV Panels	4m	24km

As can be viewed in Figure 10 on the following page, the viewshed is fairly unidirectional within the 6km Foreground/ Mid Ground area where Higher Visual Exposure is expected, with a small patch to the northwest creating a non-visibility island. Outside of this zone, viewshed fragmentation starts to become more pronounced with further expansion past the 12km Mid-Ground/ Background area only taking place to the northwest and southwest. In terms of visual intensity, more of the property areas will be visible to the west, and southwest, with the eastern and southeastern areas depicting less visual incidence. While the N10 National Highway does fall within the viewshed, at approx. 8km to the landscape change, views will be dissipated by atmospheric influences and the landscape change is unlikely to be clearly visible. The only other receptors in the area are the local farmsteads including Good Hope Farm to the northeast, and Skilpadkuil to the east. As the areas east of the site have higher levels of scenic quality, the intervisibility of the Phase 2 & Phase 3 PV projects should be limited. As can be seen by the viewshed, the un-mitigated viewshed does allow for intervisibility. In order to better understand where the eastern viewshed expansion is taking place from, a further two viewshed were generated from two areas on the ridgeline. As depicted in Figure 11 below, with the mitigation viewshed overlaid onto the non-mitigated viewshed, the location of the PV panels on the small hill, does increase intervisibility and the exclusion of the area from PV development, would assist in ensuring that intervisibility is reduced to some degree from eastern receptors outside of the Foreground areas.

Project ZVI Findings

While the viewshed does extend over a wide area, the bulk of the development can be effectively screened from eastern receptors with mitigation. Without mitigation, the ZVI is rated as Medium to High, and reduced to Medium to Low with mitigation.

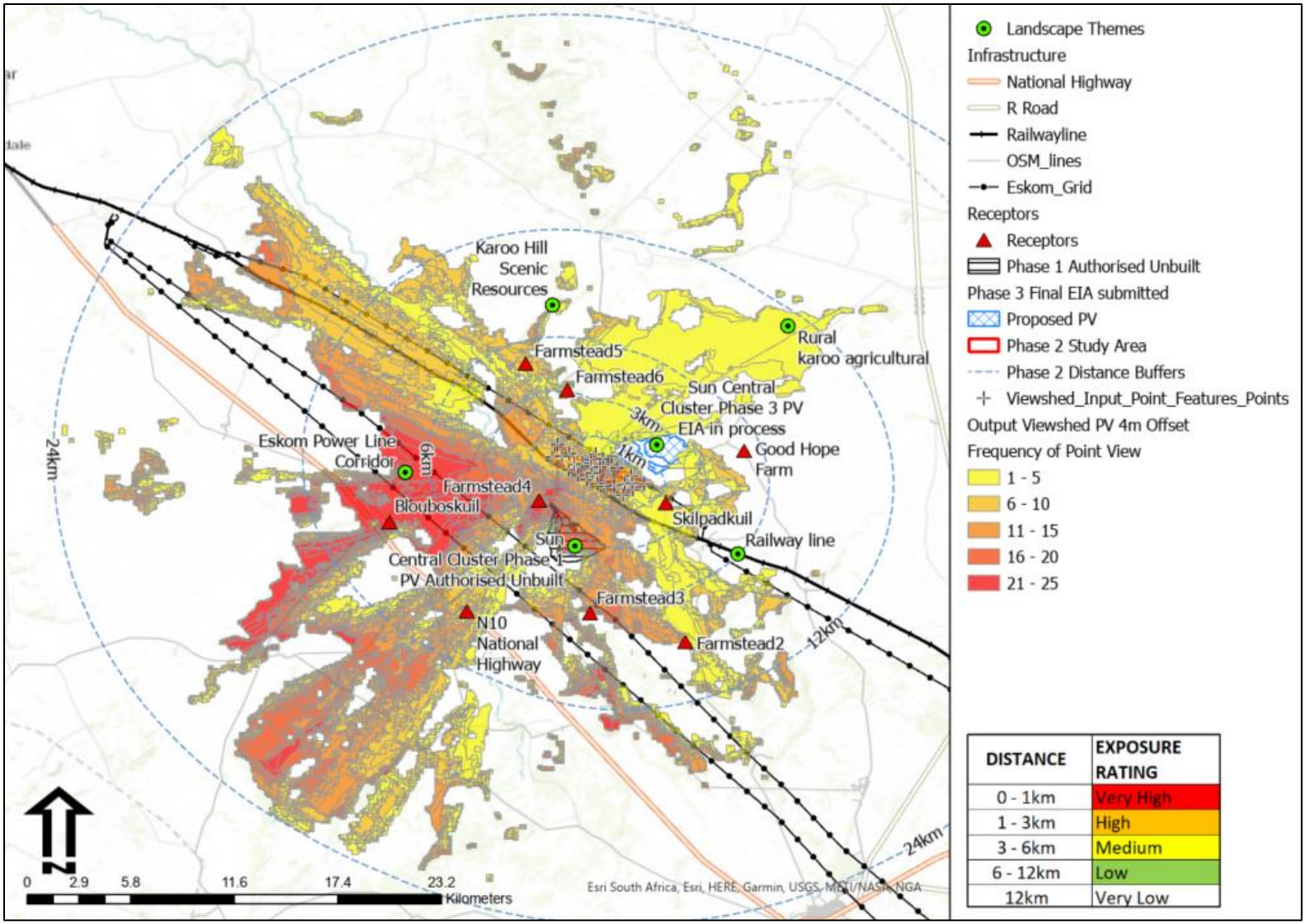
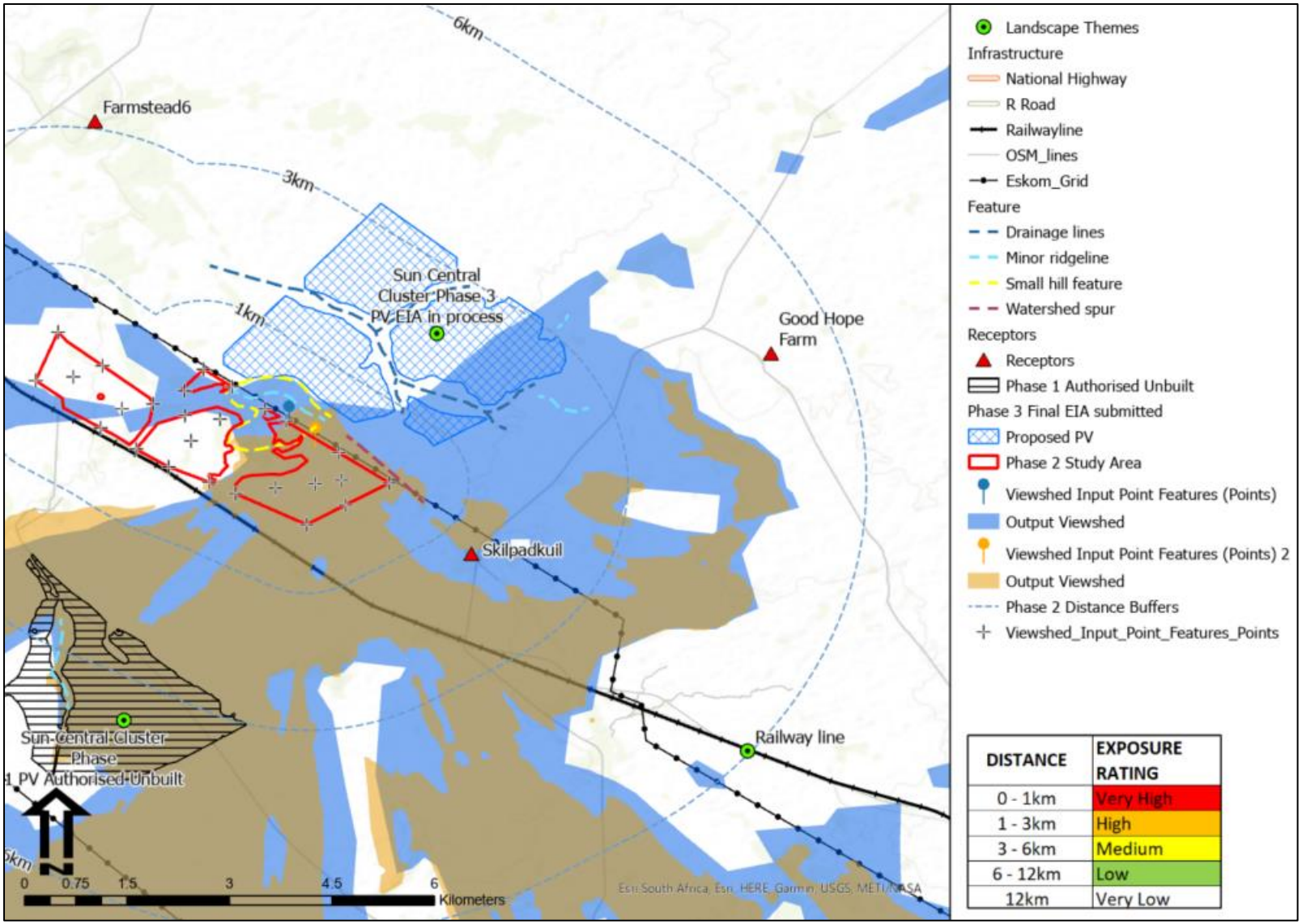


Figure 10. Project viewshed analysis with Offset 4m above ground from target points.



DISTANCE	EXPOSURE RATING
0 - 1km	Very High
1 - 3km	High
3 - 6km	Medium
6 - 12km	Low
12km	Very Low

Figure 11. Un-mitigated compared to mitigation viewshed area maps.

6.5 Receptors and Key Observation Points

As defined in the methodology, KOPs are defined by the Bureau of Land Management as the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. Table 14 identifies the receptors identified within the ZVI, as well as motivating their significance and whether they should be defined as KOPs for further evaluation in the impact assessment phase. The receptors located within the ZVI and KOPs view lines are indicated in Figure 12 below.

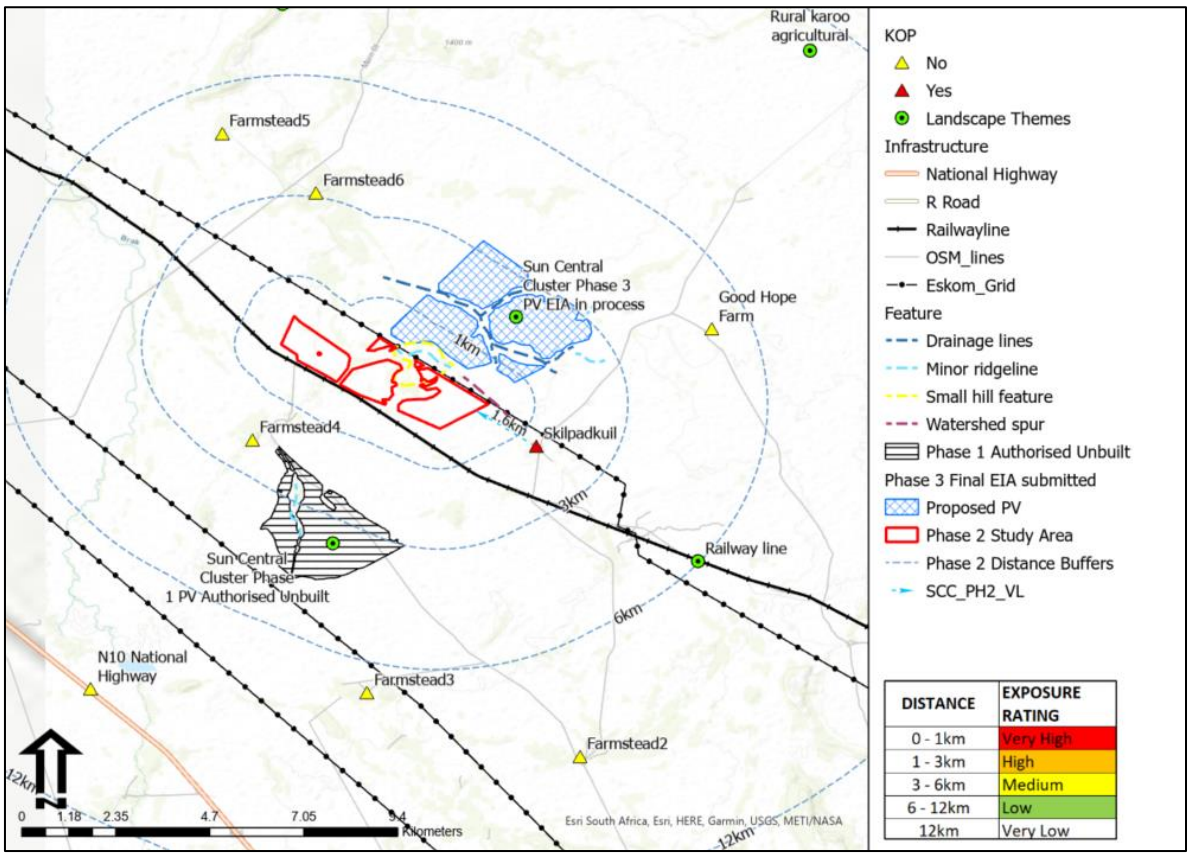


Figure 12: Receptor and Key Observation Point exposure map.

Table 14. Receptor and KOP Motivation Table.

Name	Exposure	KOP	Category	Motivation
Farmstead 4	High	No	Farmstead	Property owner and proponent
Farmstead 3	Medium to Low	No	Farmstead	Low Exposure and limited potential for visual intrusion.
Farmstead 2	Low	No	Farmstead	Low Exposure and limited potential for visual intrusion.
N10 National Highway	Low	No	Road	Low Exposure and limited potential for visual intrusion.
Good Hope Farm	Medium	No	Farmstead	High Exposure to PV, landscape change is rural agricultural setting with medium to high scenic quality.

Skilpadkuil	Very High	Yes	Farmstead	High Exposure to PV, landscape change is rural agricultural setting with medium to high scenic quality.
Farmstead6	Medium to High	No	Farmstead	Medium to High Exposure with possible limited views towards PV project.
Farmstead5	Medium	No	Farmstead	Medium Exposure with local tree screening.

Due to topographic screening and limited views from undulating terrain, only Skilpadkuil was identified as a Key Observation Point and should be used as a location to assess the suitability of the landscape change. However, as this is a Visual Statement, a Contrast Rating and Impact Assessment is not undertaken. To ensure that visual exposure is reduced, it is recommended that the small hill area is excluded, as with the mitigation the visibility to this farmstead is reduced as depicted in Figure 11.

7 VISUAL RESOURCE MANAGEMENT

In terms of the VRM methodology, landscape character is derived from a combination of scenic quality, receptor sensitivity to landscape change, and distance of the proposed landscape modification from key receptor points. Making use of the key landscape elements defined in the landscape contextualisation sections above, landscape units are defined which are then rated to derive their intrinsic scenic value, as well as how sensitive people living in the area would be to changes taking place in these landscapes.

7.1 Physiographic Rating Units

The Physiographic Rating Units are the areas within the study area that reflect specific physical and graphic elements that define a particular landscape character. These unique landscapes within the project development areas are rated to assess the scenic quality and receptor sensitivity to landscape change, which is then used to define a Visual Resource Management Class for each of the site's unique landscape/s. The exception is Class I, which is determined based on national and international policy / best practice and landscape significance and as such are not rated for scenic quality and receptor sensitivity to landscape change. Based on the SANBI mapping and the site visit to define key landscape features, the following broad-brush areas were tabled and mapped in Figure 13 below.

Table 15: Physiographic Landscape Rating Units.

ID	Name	Motivation
7	Karoo-Grasslands	Typical of the undulating Nama-Karoo landscape that is fairly common in the landscape and is partially visually degraded by the existing powerlines and railway line.
10	Intervisibility Ridgeline Buffer	The small hill area where development is proposed would result in increased intervisibility with Phase 3.

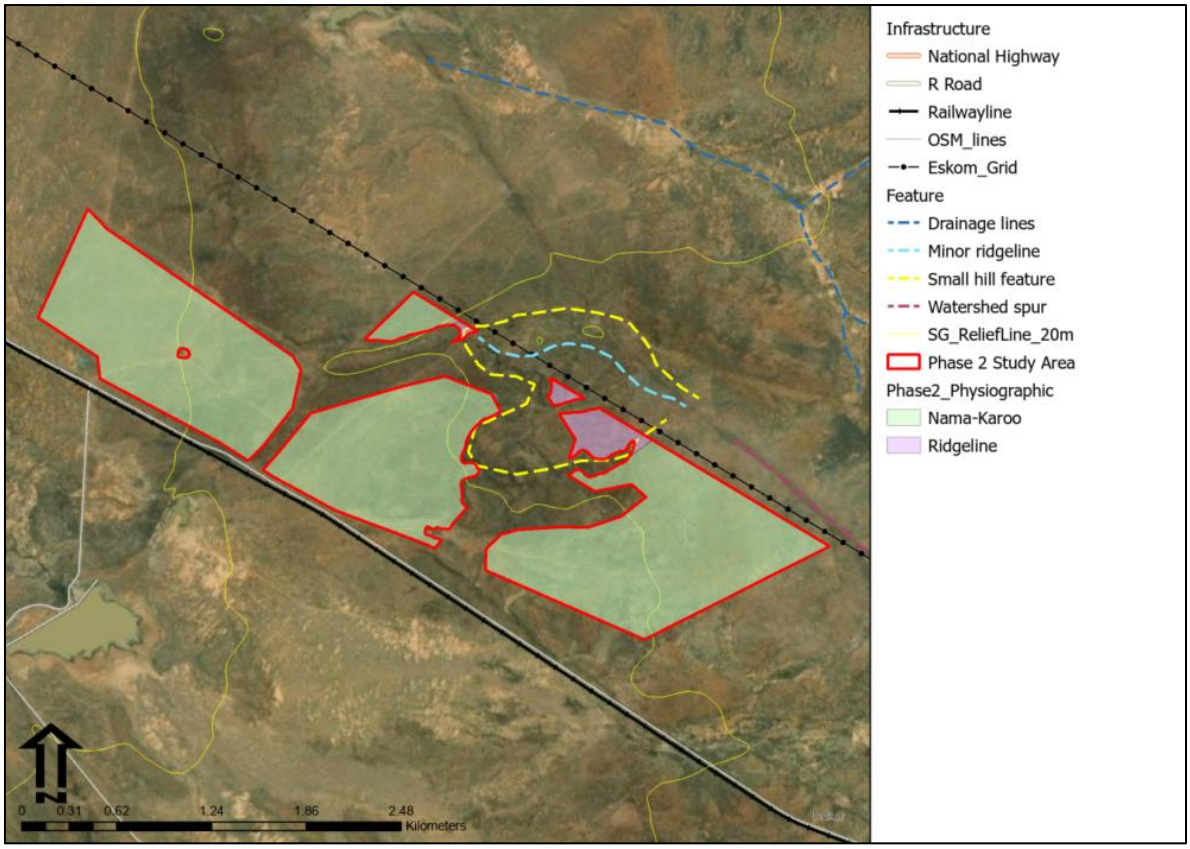


Figure 13: Broad brush Physiographic Rating Units demarcated within the defined study area.

Table 16. Scenic Quality and Receptor Sensitivity Rating

Landscape Rating Units	**Scenic Quality** A= scenic quality rating of ≥19; B = rating of 12 – 18, C= rating of ≤11									**Receptor Sensitivity** H = High; M = Medium; L = Low						**VRM**	
Attribute	**Landform**	**Vegetation**	**Water**	**Colour**	**Scarcity**	**Adjacent Landscape**	**Cultural Modifications**	**Sum**	**Rating**	**Type of Users**	**Amount of Use**	**Public Interest**	**Adjacent Land Uses**	**Special Areas**	**Rating**	**Inventory Class**	**Management Class**
High Significance areas: • Hydrological • Botanical • Heritage • Ridgeline (intervisibility)	**(Class I is not rated)**																**I**
Grasslands	1	2	0	3	3	4	2	**15**	**B**	H	L	L	M	L	**M**	**III**	**III**

Red colour indicates change in rating from Visual Inventory to Visual Resource Management Classes motivated in the following section.

The ***Scenic Quality*** scores are totalled and assigned an A (High scenic quality), B (Moderate scenic quality) or C (Low scenic quality) category based on the following split: *A= scenic quality rating of ≥19; B = rating of 12 – 18, C= rating of ≤11* (USDI., 2004).
Receptor Sensitivity levels are a measure of public concern for scenic quality. Receptor sensitivity to landscape change is determined by rating the key factors relating to the perception of landscape change in terms of Low to High.

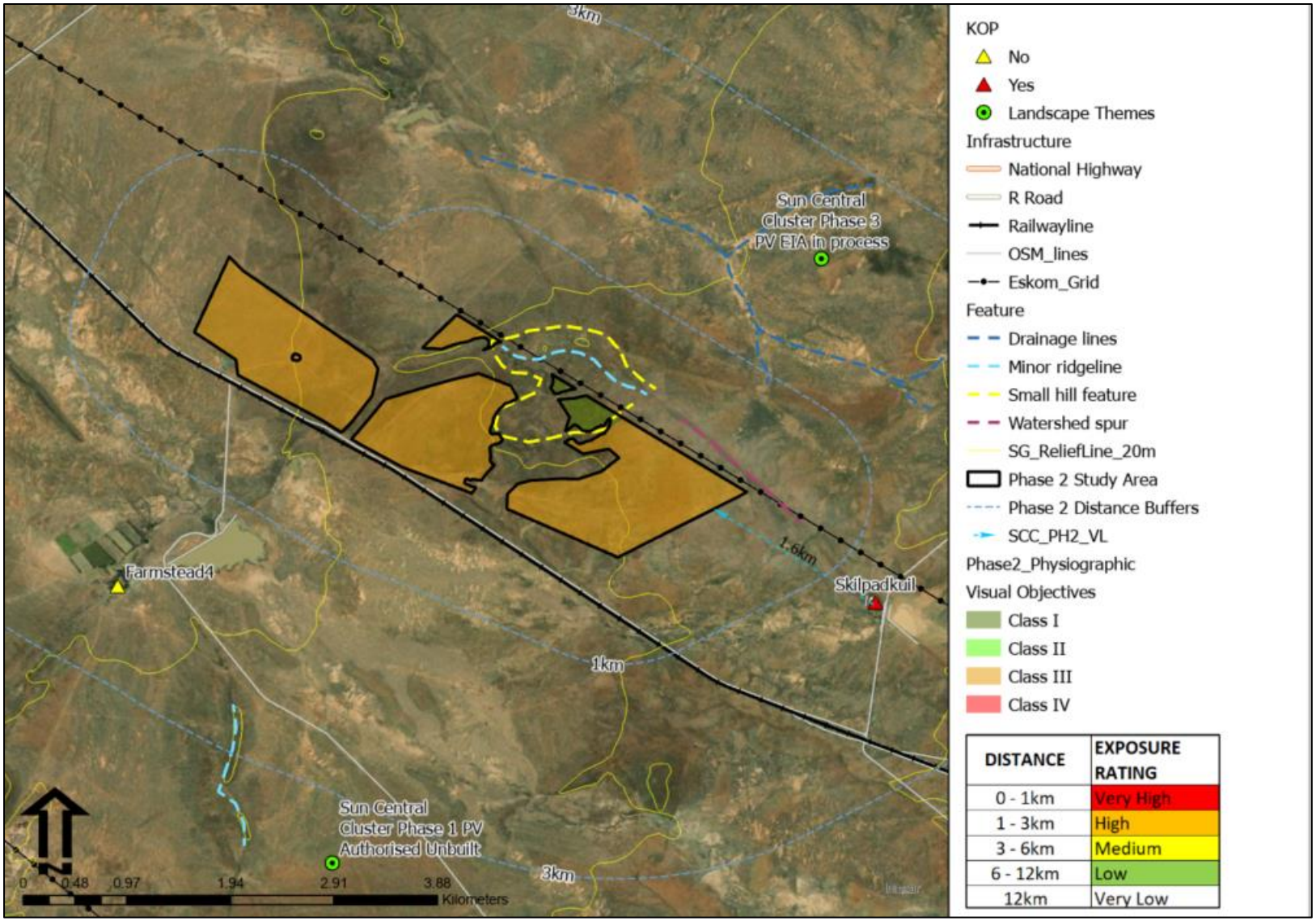


Figure 14: Detailed Visual Resource Management Classes map updated with prominence setback areas.

7.2 Scenic Quality Assessment

The scenic quality of the proposed development site is rated Medium. Landform is rated medium for the more prominent areas of the property as the landform shapes and sizes are moderate in scale and are interesting, though not dominant or exceptional. The lower lying areas of the grasslands is rated as low as they occupy the valley bottom that has limited landscape features. Vegetation for the entire area was rated medium to low as it is primarily covered by grasslands and, while offering some variety of vegetation, only one or two major types are visually dominant. As water features are absent or not noticeable in the landscape, scenic quality for water is rated nil. Colours in the landscape are mainly provided by the vegetation and, while there is some variety and colour contrast, this is not a dominant scenic element. Adjacent scenery is rated medium due to the undulating karoo landscape that includes low hills and wide valleys, but moderated by the railway line and powerline modifications that reduce visual quality of the locality to some degree. Landscape Scarcity is rated medium as the scenic quality of the landscape with its distinctive colour is similar to the surrounding landscape within the region. As there are no dominating manmade modifications in the landscape, the category for Cultural Modification is rated as a positive landscape element as the existing rural agricultural land use favourably enhances visual harmony and adds to the overall Scenic Quality.

7.3 Receptor Sensitivity Assessment

Receptor sensitivity to landscape changes is rated Medium. As the area is rural and remote with the adjacent property owners who are farmers, maintenance of visual quality was rated High for the more prominent areas of the site. Both close proximity neighbours are concerned that the proposed semi-industrial PV landscape change, will result in a reduction in property price, but are also involved in solar farming to some degree. As the area is remote, the amount of use is rated Low and with Medium regional visual resources, public interest in maintaining the site visual resources is also rated Low. Maintenance of visual quality to sustain adjacent land uses is rated Medium to High as eastern property owners have indicated concern regarding the semi-industrial type of development in a deep rural setting. The maintenance of visual quality to sustain special area management objectives is rated Medium as the area is zoned for agricultural and is not located within a REDZ area.

7.4 Visual Resource Management (VRM) Classes

The BLM has defined four Classes that represent the relative value of the visual resources of an area and are defined making use of the VRM Matrix below:

i. **Classes I and II** are the most valued.
ii. **Class III** represent a moderate value.
iii. **Class IV** is of least value.

7.4.1 Class I

Class I is assigned when legislation restricts development in certain areas. The visual objective is to preserve the existing character of the landscape, the level of change to the characteristic landscape should be very low and must not attract attention. A Class I visual

objective was assigned to the following features within the proposed development area due to their protected status within the South African legislation:

- Any river / streams and associated flood lines buffers identified as significant in terms of the WULA process.
- Any wetlands identified as significant in terms of the WULA process.
- Any ecological areas (or plant species) identified as having a high significance.
- Any heritage area identified as having a high significance.
- **Ridgeline prominence to reduce intervisibility.**

These areas are not suitable for development and should be retained as a natural landscape area.

7.4.2 VRM Class II

The Class II objective is to retain the existing character of the landscape with a low level of change to the characteristic landscape. The proposed development may be seen but should not attract the attention of the casual observer, and should repeat the basic elements of form, line, colour and texture found in the predominant natural features of the characteristic landscape. VRM Class II areas include:

- **No applicable.**

No VRM Class II areas were defined on the site.

7.4.3 VRM Class III

The Class III objective is to partially retain the existing character of the landscape, where the level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer, and changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. The following landscape was defined as having Class III Visual Objectives where development would be most suitable:

- **Lower lying grasslands**

These areas are suitable for development with height mitigation (less than 4m to reduce intervisibility).

7.4.4 VRM Class IV

As the area is zoned agricultural and located adjacent to an area that ***does have some scenic value, no Class IV areas were defined***.

8 CONCLUSION

It is the finding of this Visual Statement, that the Henwood VIA impacts and conclusions are valid. However, due to the risks of intervisibility and skyline intrusion, the small hill section of the study area has been excluded from development so that the Sun Central Cluster Phase 2 (this assessment) would not be visible to the Sun Central Cluster Phase 3 (VIA also undertaken by Visual Resource Management Africa), and the adjacent Skilpadkuil Farmstead would also be less visually exposure. This reduced intervisibility was a recommendation of the Sun Central Cluster Phase 3 (VIA). With this mitigation, the author concurs with the following Henwood VIA finding:

"The anticipated visual impacts listed above (i.e., post mitigation impacts) are not considered to be fatal flaws from a visual perspective, especially considering the low occurrence of visual receptors within the 10km offset. It is therefore recommended that the development of the solar facility as proposed (i.e. Alternative 2) be supported, subject to the implementation of the recommended mitigation measures and management actions. "

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10 ANNEXURE A: SITE VISIT PHOTOGRAPHS AND COMMENTS

The following photographs were taken during the field survey as mapped below. The text below the photograph describes the landscape and visual issues of the locality, if applicable.

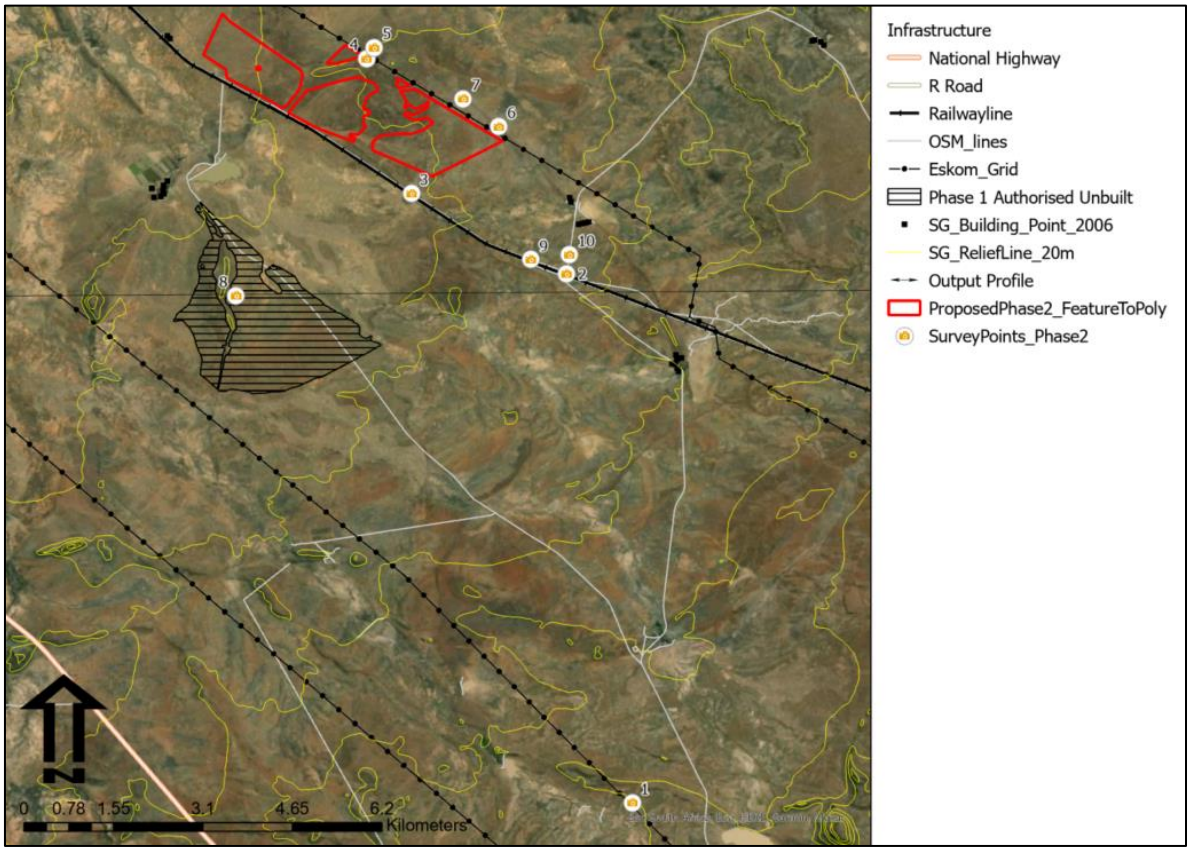


Figure 15: Survey Points (Extraction from Sun Central Cluster Phase 3 Site Survey) with the authorised Sun Central Cluster Phase 1 Solar PV depicted.

ID	1
LATITUDE	24,41324833
LONGITUDE	-30,99215
REMARKS	Eskom 400kv powerline x 2. Limited landscape intrusion due to suitable routing off prominent positions and lattice type structures with wide spacing between the lines.
DIRECTION	NE
THEME	Context

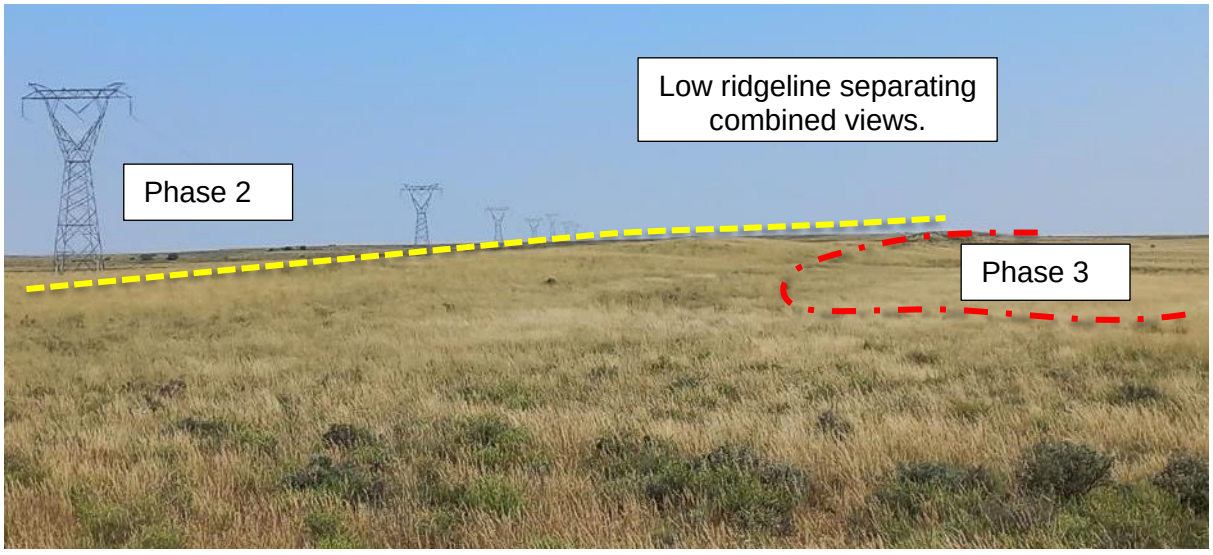
ID	2
LATITUDE	24,367255
LONGITUDE	-30,872845
REMARKS	Railway line located east of the site outside of the main project area but influencing the local landscape character to the areas adjacent to the infrastructure.
DIRECTION	NW
THEME	Context

ID	3
LATITUDE	24,34314833
LONGITUDE	-30,86035167
REMARKS	Proposed powerline crossing over from road.
DIRECTION	NW
THEME	Site

ID	4
LATITUDE	24,336125
LONGITUDE	-30,83937167
REMARKS	Eskom 132kv powerlines routing with lattice structures located south of the site with some influence on landscape character around locality.
DIRECTION	E
THEME	Context

ID	5
LATITUDE	24,33731
LONGITUDE	-30,837645
REMARKS	Photo depicting wide depression of western site landscape with veld grasses in foreground and small hills in background. Higher levels of scenic quality to east of site.
DIRECTION	N
THEME	Site

ID	13
LATITUDE	24,35671795
LONGITUDE	-30,84994985
REMARKS	Shallow ridgeline that would contain the ZVI to local levels upon exclusion from development zone. Also located off local highpoints and contains development in the wide basin (red dashed line), would be effective in reducing inter-visibility between the Phase 2 and Phase 3 projects.
DIRECTION	W



ID	14
LATITUDE	24,3511859
LONGITUDE	-30,84557143
REMARKS	Local prominence not suitable for wrap over development that forms part of the low ridgeline to the west of the property.
DIRECTION	NE
THEME	Site

ID	15
LATITUDE	24,31585819
LONGITUDE	-30,876234
REMARKS	Photo view south towards low ridgeline along which the proposed Transmission lines would be routed. Suitable routing but care needed on crossing and visual landscape prominence.
DIRECTION	S
THEME	Site

ID	16
LATITUDE	24,36168667
LONGITUDE	-30,87063167
REMARKS	Farm road receptor via northwest with skyline views located on the southwestern study area boundary. Mitigation setback required as per viewshed from receptor.
DIRECTION	NW
THEME	Receptor

ID	20
LATITUDE	24,36769389
LONGITUDE	-30,86988235
REMARKS	Farmstead access road receptor
DIRECTION	N
THEME	Receptor access with the project located in the mid-ground on the skyline.

11 ANNEXURE B: SPECIALIST INFORMATION

11.1 Professional Registration Certificate

APHP

Association of Professional Heritage Practitioners

MEMBERSHIP CERTIFICATE

THIS CERTIFIES THAT

Stephen Stead

MEMBERSHIP NUMBER: 0063

has been awarded membership as a

PROFESSIONAL HERITAGE PRACTITIONER (PHP)

This membership is subject to the *Standards for Membership* and *Code of Conduct*, referred to in Sections 2 and 3 of the APHP Constitution respectively. The definition of a PHP may be found at: www.aphp.org.za/membership

Please contact us via info@aphp.org.za should further information be required.

THIS CERTIFICATE IS VALID FROM 1 JUNE 2022 – 1 JULY 2023

CHAIRPERSON

[Issued by the Association of Professional Heritage Practitioners Executive Committee]
Image Source: Photographer G McLachlan at central Kouga Mountains

Association of Professional Heritage Practitioners
info@aphp.org.za
www.aphp.org.za

11.2 Curriculum Vitae (CV)

1. **Position**: Owner / Director

2. **Name of Firm**: Visual Resource Management Africa cc *(www.vrma.co.za)*

3. **Name of Staff**: Stephen Stead

4. **Date of Birth**: 9 June 1967

5. **Nationality:** South African

6. **Contact Details:** **Tel: +27 (0) 44 876 0020**
   Cell: +27 (0) 83 560 9911
   Email: steve@vrma.co.za

7. **Educational qualifications**:
   - University of Natal (Pietermaritzburg):
   - Bachelor of Arts: Psychology and Geography
   - Bachelor of Arts (Hons): Human Geography and Geographic Information Management Systems

8. **Professional Accreditation**
   - Association of Professional Heritage Practitioners (APHP) Western Cape
     - Accredited VIA practitioner member of the Association (2011)

9. **Association involvement:**
   - International Association of Impact Assessment (IAIA) South African Affiliate
     - Past President (2012 - 2013)
     - President (2012)
     - President-Elect (2011)
     - Conference Co-ordinator (2010)
     - National Executive Committee member (2009)
     - Southern Cape Chairperson (2008)

10. **Conferences Attended:**
    - IAIAsa 2012
    - IAIAsa 2011
    - IAIA International 2011 (Mexico)
    - IAIAsa 2010
    - IAIAsa 2009
    - IAIAsa 2007

11. **Continued Professional Development:**
    - Integrating Sustainability with Environment Assessment in South Africa (IAIAsa Conference, 1 day)
    - Achieving the full potential of SIA (Mexico, IAIA Conference, 2 days 2011)
    - Researching and Assessing Heritage Resources Course (University of Cape Town, 5 days, 2009)

12. Countries of Work Experience:

- South Africa, Mozambique, Malawi, Lesotho, Kenya and Namibia

13. Relevant Experience:

Stephen gained six years of experience in the field of Geographic Information Systems mapping and spatial analysis working as a consultant for the KwaZulu-Natal Department of Health and then with an Environmental Impact Assessment company based in the Western Cape. In 2004 he set up the company Visual Resource Management Africa that specializes in visual resource management and visual impact assessments in Africa. The company makes use of the well-documented Visual Resource Management methodology developed by the Bureau of Land Management (USA) for assessing the suitability of landscape modifications. Stephen has assessed of over 150 major landscape modifications throughout southern and eastern Africa. The business has been operating for eighteen years and has successfully established and retained a large client base throughout Southern Africa which include amongst other, Rio Tinto (Pty) Ltd, Bannerman (Pty) Ltd, Anglo Coal (Pty) Ltd, Eskom (Pty) Ltd, NamSolar and Vale (Pty) Ltd, Ariva (Pty) Ltd, Harmony Gold (Pty) Ltd, Millennium Challenge Account (USA), Pretoria Portland Cement (Pty) Ltd

14. Languages:

- English – First Language
- Afrikaans – fair in speaking, reading and writing

15. Projects:

A list of ***some*** of the large-scale projects that VRMA has assessed has been attached below with the client list indicated per project (Refer to www.vrma.co.za for a full list of projects undertaken).

Table 17: VRM Africa Projects Assessments Table

YEAR	NAME	DESCRIPTION	LOCATION
2022	Sea Vista St Francis Bay	Resort	Eastern Cape (SA)
2022	Houthaalboomen PV	Solar Energy	North West (SA)
2022	Pofadder Wind x 3	Wind Energy	Northern Cape (SA)
2022	Lunsklip Wind Amend	Wind Energy	Western Cape (SA)
2022	Lunsklip Wind Grid Connect	Power line	Western Cape (SA)
2022	Elandsfontein PV	Solar Energy	North West (SA)
2022	Erf 1713 1717 UISP	Settlement	Western Cape (SA)
2022	Roan PV x 2	Solar Energy	North West (SA)
2021	Avondale Gordonia 132kV Power Line	Infrastructure	Northern Cape (SA)
2021	Maitland Mines Wedding Venue	Resort	Eastern Cape (SA)
2020	Humansdorp BESS	Battery Storage	Northern Cape (SA)
2020	Bloemsmond PV BESS x 5	Battery Storage	Northern Cape (SA)
2020	Mulilo Prieska BESS x 5	Battery Storage	Northern Cape (SA)
2020	Mulilo De Arr BESS x 3	Battery Storage	Northern Cape (SA)

2020	Sandpiper Estate	Residential	Western Cape (SA)
2020	Obetsebi Lampley Interchange	Infrastructure	Ghana
2019	Wolvedans Megadump Facility	Mining	Mpumalanga (SA)
2019	Port Barry Residential	Settlement	Western Cape (SA)
2019	Gamsberg Smelter	Plant	Northern Cape (SA)
2019	Sandpiper Nature Reserve Lodge	Residential	Western Cape (SA)
2019	Bloemsmond PV 4 - 5	Solar Energy	Northern Cape (SA)
2019	Mphepo Wind (Scoping Phase)	Wind Energy	Zambia
2018	Mogara PV	Solar Energy	Northern Cape (SA)
2018	Gaetsewe PV	Solar Energy	Northern Cape (SA)
2017	Kalungwishi Hydroelectric (2) and power line	Hydroelectric	Zambia
2017	Mossel Bay UISP (Kwanoqaba)	Settlement	Western Cape (SA)
2017	Pavua Dam and HEP	Hydroelectric	Mozambique (SA)
2017	Penhill UISP Settlement (Cape Town)	Settlement	Western Cape (SA)
2016	Kokerboom WEF * 3	Wind Energy	Northern Cape (SA)
2016	Hotazel PV	Solar Energy	Northern Cape (SA)
2016	Eskom Sekgame Bulkop Power Line	Infrastructure	Northern Cape (SA)
2016	Ngonye Hydroelectric	Hydroelectric	Zambia
2016	Levensdal Infill	Settlement	Western Cape (SA)
2016	Arandis CSP	Solar Energy	Namibia
2016	Bonnievale PV	Solar Energy	Western Cape (SA)
2015	Noblesfontein 2 & 3 WEF (Scoping)	Wind Energy	Eastern Cape (SA)
2015	Ephraim Sun SEF	Solar Energy	Northern Cape (SA)
2015	Dyasonsklip and Sirius Grid TX	Solar Energy	Northern Cape (SA)
2015	Dyasonsklip PV	Solar Energy	Northern Cape (SA)
2015	Zeerust PV and transmission line	Solar Energy	North West (SA)
2015	Bloemsmond SEF	Solar Energy	Northern Cape (SA)
2015	Juwi Copperton PV	Solar Energy	Northern Cape (SA)
2015	Humansrus Capital 14 PV	Solar Energy	Northern Cape (SA)
2015	Humansrus Capital 13 PV	Solar Energy	Northern Cape (SA)
2015	Spitzkop East WEF (Scoping)	Solar Energy	Western Cape (SA)
2015	Lofdal Rare Earth Mine and Infrastructure	Mining	Namibia
2015	AEP Kathu PV	Solar Energy	Northern Cape (SA)
2014	AEP Mogobe SEF	Solar Energy	Northern Cape (SA)
2014	Bonnievale SEF	Solar Energy	Western Cape (SA)
2014	AEP Legoko SEF	Solar Energy	Northern Cape (SA)
2014	Postmasburg PV	Solar Energy	Northern Cape (SA)
2014	Joram Solar	Solar Energy	Northern Cape (SA)
2014	RERE PV Postmasberg	Solar Energy	Northern Cape (SA)
2014	RERE CPV Upington	Solar Energy	Northern Cape (SA)
2014	Rio Tinto RUL Desalinisation Plant	Industrial	Namibia

2014	NamPower PV * 3	Solar Energy	Namibia
2014	Pemba Oil and Gas Port Expansion	Industrial	Mozambique
2014	Brightsource CSP Upington	Solar Energy	Northern Cape (SA)
2014	Witsand WEF (Scoping)	Wind Energy	Western Cape (SA)
2014	Kangnas WEF	Wind Energy	Western Cape (SA)
2013	Cape Winelands DM Regional Landfill	Industrial	Western Cape (SA)
2013	Drennan PV Solar Park	Solar Energy	Eastern Cape (SA)
2013	Eastern Cape Mari-culture	Mari-culture	Eastern Cape (SA)
2013	Eskom Phantom Pass Substation	Substation /Tx lines	Western Cape (SA)
2013	Frankfort Paper Mill	Plant	Free State (SA)
2013	Gibson Bay Wind Farm Transmission lines	Transmission lines	Eastern Cape (SA)
2013	Houhoek Eskom Substation	Substation /Tx lines	Western Cape (SA)
2013	Mulilo PV Solar Energy Sites (x4)	Solar Energy	Northern Cape (SA)
2013	Namies Wind Farm	Wind Energy	Northern Cape (SA)
2013	Rossing Z20 Pit and WRD	Mining	Namibia
2013	SAPPI Boiler Upgrade	Plant	Mpumalanga (SA)
2013	Tumela WRD	Mine	North West (SA)
2013	Weskusfleur Substation (Koeburg)	Substation /Tx lines	Western Cape (SA)
2013	Yzermyn coal mine	Mining	Mpumalanga (SA)
2012	Afrisam	Mining	Western Cape (SA)
2012	Bitterfontein	Solar Energy	Northern Cape (SA)
2012	Kangnas PV	Solar Energy	Northern Cape (SA)
2012	Kangnas Wind	Solar Energy	Northern Cape (SA)
2012	Kathu CSP Tower	Solar Energy	Northern Cape (SA)
2012	Kobong Hydro	Hydro & Powerline	Lesotho
2012	Letseng Diamond Mine Upgrade	Mining	Lesotho
2012	Lunsklip Windfarm	Wind Energy	Western Cape (SA)
2012	Mozambique Gas Engine Power Plant	Plant	Mozambique
2012	Ncondezi Thermal Power Station	Substation /Tx lines	Mozambique
2012	Sasol CSP Tower	Solar Power	Free State (SA)
2012	Sasol Upington CSP Tower	Solar Power	Northern Cape (SA)
2011	Beaufort West PV Solar Power Station	Solar Energy	Western Cape (SA)
2011	Beaufort West Wind Farm	Wind Energy	Western Cape (SA)
2011	De Bakke Cell Phone Mast	Structure	Western Cape (SA)
2011	ERF 7288 PV	Solar Energy	Western Cape (SA)
2011	Gecko Industrial park	Industrial	Namibia
2011	Green View Estates	Residential	Western Cape (SA)
2011	Hoodia Solar	Solar Energy	Western Cape (SA)
2011	Kalahari Solar Power Project	Solar Energy	Northern Cape (SA)
2011	Khanyisa Power Station	Power Station	Western Cape (SA)
2011	Olvyn Kolk PV	Solar Energy	Northern Cape (SA)

2011	Otjikoto Gold Mine	Mining	Namibia
2011	PPC Rheebieck West Upgrade	Industrial	Western Cape (SA)
2011	George Southern Arterial	Road	Western Cape (SA)
2010	Bannerman Etango Uranium Mine	Mining	Namibia
2010	Bantamsklip Transmission	Transmission	Eastern Cape (SA)
2010	Beaufort West Urban Edge	Mapping	Western Cape (SA)
2010	Bon Accord Nickel Mine	Mining	Mpumalanga (SA)
2010	Etosha National Park Infrastructure	Housing	Namibia
2010	Herolds Bay N2 Development Baseline	Residential	Western Cape (SA)
2010	MET Housing Etosha	Residential	Namibia
2010	MET Housing Etosha Amended MCDM	Residential	Namibia
2010	MTN Lattice Hub Tower	Structure	Western Cape (SA)
2010	N2 Herolds Bay Residental	Residential	Western Cape (SA)
2010	Onifin(Pty) Ltd Hartenbos Quarry Extension	Mining	Western Cape (SA)
2010	Still Bay East	GIS Mapping	Western Cape (SA)
2010	Vale Moatize Coal Mine and Railway	Mining / Rail	Mozambique
2010	Vodacom Mast	Structure	Western Cape (SA)
2010	Wadrif Dam	Dam	Western Cape (SA)
2009	Asazani Zinyoka UISP Housing	Residential Infill	Western Cape (SA)
2009	Eden Telecommunication Tower	Structure	Western Cape (SA)
2009	George SDF Landscape Characterisation	GIS Mapping	Western Cape (SA)
2009	George SDF Visual Resource Management	GIS Mapping	Western Cape (SA)
2009	George Western Bypass	Road	Western Cape (SA)
2009	Knysna Affordable Housing Heidevallei	Residential Infill	Western Cape (SA)
2009	Knysna Affordable Housing Hornlee Project	Residential Infill	Western Cape (SA)
2009	Rossing Uranium Mine Phase 2	Mining	Namibia
2009	Sun Ray Wind Farm	Wind Energy	Western Cape (SA)
2008	Bantamsklip Transmission Lines Scoping	Transmission	Western Cape (SA)
2008	Erf 251 Damage Assessment	Residential	Western Cape (SA)
2008	Erongo Uranium Rush SEA	GIS Mapping	Namibia
2008	Evander South Gold Mine Preliminary VIA	Mining	Mpumalanga (SA)
2008	George SDF Open Spaces System	GIS Mapping	Western Cape (SA)
2008	Hartenbos River Park	Residential	Western Cape (SA)
2008	Kaaimans Project	Residential	Western Cape (SA)
2008	Lagoon Garden Estate	Residential	Western Cape (SA)
2008	Moquini Beach Hotel	Resort	Western Cape (SA)
2008	NamPower Coal fired Power Station	Power Station	Namibia
2008	Oasis Development	Residential	Western Cape (SA)
2008	RUL Sulpher Handling Facility Walvis Bay	Mining	Namibia
2008	Stonehouse Development	Residential	Western Cape (SA)
2008	Walvis Bay Power Station	Structure	Namibia

2007	Calitzdorp Retirement Village	Residential	Western Cape (SA)
2007	Calitzdorp Visualisation	Visualisation	Western Cape (SA)
2007	Camdeboo Estate	Residential	Western Cape (SA)
2007	Destiny Africa	Residential	Western Cape (SA)
2007	Droogfontein Farm 245	Residential	Western Cape (SA)
2007	Floating Liquified Natural Gas Facility	Structure tanker	Western Cape (SA)
2007	George SDF Municipality Densification	GIS Mapping	Western Cape (SA)
2007	Kloofsig Development	Residential	Western Cape (SA)
2007	OCGT Power Plant Extension	Structure Power Plant	Western Cape (SA)
2007	Oudtshoorn Municipality SDF	GIS Mapping	Western Cape (SA)
2007	Oudtshoorn Shopping Complex	Structure	Western Cape (SA)
2007	Pezula Infill (Noetzie)	Residential	Western Cape (SA)
2007	Pierpoint Nature Reserve	Residential	Western Cape (SA)
2007	Pinnacle Point Golf Estate	Golf/Residential	Western Cape (SA)
2007	Rheebok Development Erf 252 Appeal	Residential	Western Cape (SA)
2007	Rossing Uranium Mine Phase 1	Mining	Namibia
2007	Ryst Kuil/Riet Kuil Uranium Mine	Mining	Western Cape (SA)
2007	Sedgefield Water Works	Structure	Western Cape (SA)
2007	Sulpher Handling Station Walvis Bay Port	Industrial	Namibia
2007	Trekkopje Uranium Mine	Mining	Namibia
2007	Weldon Kaya	Residential	Western Cape (SA)
2006	Farm Dwarsweg 260	Residential	Western Cape (SA)
2006	Fynboskruin Extension	Residential	Western Cape (SA)
2006	Hanglip Golf and Residential Estate	Residential	Western Cape (SA)
2006	Hansmoeskraal	Slopes Analysis	Western Cape (SA)
2006	Hartenbos Landgoed Phase 2	Residential	Western Cape (SA)
2006	Hersham Security Village	Residential	Western Cape (SA)
2006	Ladywood Farm 437	Residential	Western Cape (SA)
2006	Le Grand Golf and Residential Estate	Residential	Western Cape (SA)
2006	Paradise Coast	Residential	Western Cape (SA)
2006	Paradyskloof Residential Estate	Residential	Western Cape (SA)
2006	Riverhill Residential Estate	Residential	Western Cape (SA)
2006	Wolwe Eiland Access Route	Road	Western Cape (SA)
2005	Harmony Gold Mine	Mining	Mpumalanga (SA)
2005	Knysna River Reserve	Residential	Western Cape (SA)
2005	Lagoon Bay Lifestyle Estate	Residential	Western Cape (SA)
2005	Outeniquabosch Safari Park	Residential	Western Cape (SA)
2005	Proposed Hotel Farm Gansevallei	Resort	Western Cape (SA)
2005	Uitzicht Development	Residential	Western Cape (SA)
2005	West Dunes	Residential	Western Cape (SA)
2005	Wilderness Erf 2278	Residential	Western Cape (SA)

2005	Wolwe Eiland Eco & Nature Estate	Residential	Western Cape (SA)
2005	Zebra Clay Mine	Mining	Western Cape (SA)
2004	Gansevallei Hotel	Residential	Western Cape (SA)
2004	Lakes Eco and Golf Estate	Residential	Western Cape (SA)
2004	Trekkopje Desalination Plant	Structure	Namibia (SA)
1995	Greater Durban Informal Housing Analysis	Photogrammetry	KwaZulu-Natal (SA)

12 ANNEXURE C: GENERAL LIGHTS AT NIGHT MITIGATIONS

Mitigation:

- Effective light management needs to be incorporated into the design of the lighting to ensure that the visual influence is limited to the project, without jeopardising project operational safety and security (See lighting mitigations by The New England Light Pollution Advisory Group (NELPAG) and Sky Publishing Corp in 14.2).
- Utilisation of specific frequency LED lighting with a green hue on perimeter security fencing.
- Directional lighting on the more exposed areas of operation, where point light source is an issue.
- No use of overhead lighting and, if possible, locate the light source closer to the operation.
- If possible, the existing overhead lighting method utilised at the mine should be phased out and replaced with an alternative lighting using closer to source, directed LED technology.

Mesopic Lighting

Mesopic vision is a combination of photopic vision and scotopic vision in low, but not quite dark, lighting situations. The traditional method of measuring light assumes photopic vision and is often a poor predictor of how a person sees at night. The light spectrum optimized for mesopic vision contains a relatively high amount of bluish light and is therefore effective for peripheral visual tasks at mesopic light levels. *(CIE, 2012)*

The Mesopic Street Lighting Demonstration and Evaluation Report by the Lighting Research Centre (LRC) in New York found that the 'replacement of white light sources (induction and ceramic metal halide) were tuned to optimize human vision under low light levels while remaining in the white light spectrum. Therefore, outdoor electric light sources that are tuned to how humans see under mesopic lighting conditions can be used to reduce the luminance of the road surface while providing the same, or better, visibility. Light sources with shorter wavelengths, which produce a "cooler" (bluer and greener) light, are needed to produce better mesopic vision. Based on this understanding, the LRC developed a means of predicting visual performance under low light conditions. This system is called the unified photometry system. Responses to surveys conducted on new installations revealed that area residents perceived higher levels of visibility, safety, security, brightness, and colour rendering with the new lighting systems than with the standard *High-Purity Standards* (HPS) systems. The new lighting systems used 30% to 50% less energy than the HPS systems. These positive results were achieved through tuning the light source to optimize mesopic vision. Using less wattage and photopic luminance also reduces the reflectance of the light off the road surface. Light reflectance is a major contributor to light pollution (sky glow).' *(Lighting Research Centre. New York. 2008)*

'Good Neighbour – Outdoor Lighting'

Presented by the New England Light Pollution Advisory Group (NELPAG) *(http://cfa/ www.harvard .edu /cfa/ps/nelpag.html)* and Sky & Telescope *(http://SkyandTelescope.com/).* NELPAG and Sky & Telescope support the International Dark-Sky Association (IDA) *(http://www.darksky.org/).*
(NELPAG)

What is good lighting? Good outdoor lights improve visibility, safety, and a sense of security, while minimizing energy use, operating costs, and ugly, dazzling glare.

Why should we be concerned? Many outdoor lights are poorly designed or improperly aimed. Such lights are costly, wasteful, and distractingly glary. They harm the night-time environment and neighbours' property values. Light directed uselessly above the horizon creates murky skyglow — the "light pollution" that washes out our view of the stars.

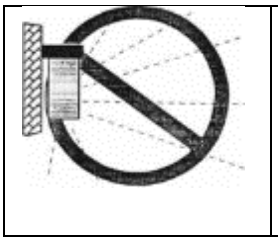
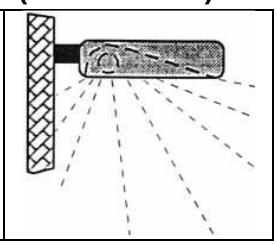
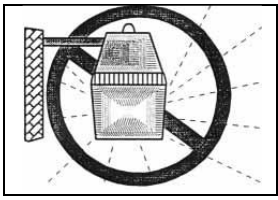
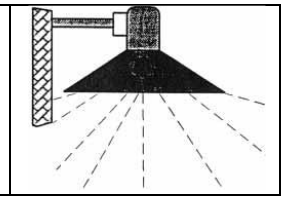
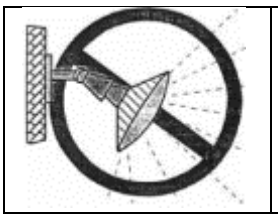
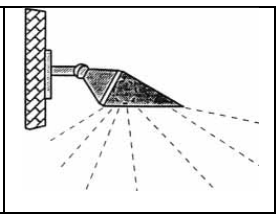
Glare Here's the basic rule of thumb: If you can see the bright bulb from a distance, it's a bad light. With a good light, you see lit ground instead of the dazzling bulb. "Glare" is light that beams directly from a bulb into your eye. It hampers the vision of pedestrians, cyclists, and drivers.

Light Trespass Poor outdoor lighting shines onto neighbours' properties and into bedroom windows, reducing privacy, hindering sleep, and giving the area an unattractive, trashy look.

Energy Waste Many outdoor lights waste energy by spilling much of their light where it is not needed, such as up into the sky. This waste results in high operating costs. Each year we waste more than a billion dollars in the United States needlessly lighting the night sky.

Excess Lighting Some homes and businesses are flooded with much stronger light than is necessary for safety or security.

Good and Bad Light Fixtures

Typical "Wall Pack"	**Typical "Shoe Box" (forward throw)**
	
BAD Waste light goes up and sideways	**GOOD** Directs all light down
Typical "Yard Light"	**Opaque Reflector (lamp inside)**
	
BAD Waste light goes up and sideways	**GOOD** Directs all light down
Area Flood Light	**Area Flood Light with Hood**
	
BAD Waste light goes up and sideways	**GOOD** Directs all light down

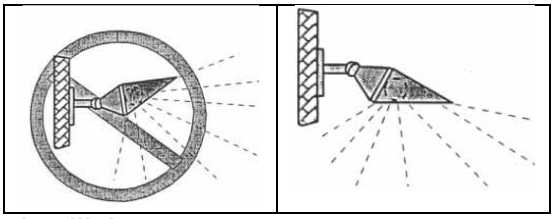
How do I switch to good lighting?

Provide only enough light for the task at hand; don't over-light, and don't spill light off your property. Specifying enough light for a job is sometimes hard to do on paper. Remember that a full Moon can make an area quite bright. Some lighting systems illuminate areas 100 times more brightly than the full Moon! More importantly, by choosing properly shielded lights, you can meet your needs without bothering neighbours or polluting the sky.

- Aim lights down. Choose “full-cut-off shielded” fixtures that keep light from going uselessly up or sideways. Full-cut-off fixtures produce minimum glare. They create a pleasant-looking environment. They increase safety because you see illuminated people, cars, and terrain, not dazzling bulbs.
- Install fixtures carefully to maximize their effectiveness on the targeted area and minimize their impact elsewhere. Proper aiming of fixtures is crucial. Most are aimed too high. Try to install them at night, when you can see where all the rays actually go. Properly aimed and shielded lights may cost more initially, but they save you far more in the long run. They can illuminate your target with a low-wattage bulb just as well as a wasteful light does with a high-wattage bulb.
- If colour discrimination is not important, choose energy- efficient fixtures utilising yellowish high-pressure sodium (HPS) bulbs. If “white” light is needed, fixtures using compact fluorescent or metal-halide (MH) bulbs are more energy-efficient than those using incandescent, halogen, or mercury-vapour bulbs.
- Where feasible, put lights on timers to turn them off each night after they are no longer needed. Put home security lights on a motion-detector switch, which turns them on only when someone enters the area; this provides a great deterrent effect!

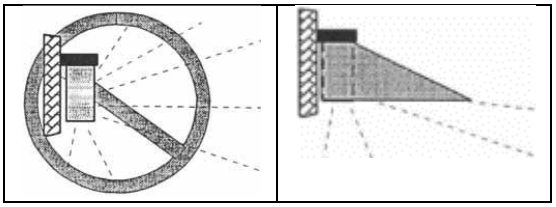
What You Can Do To Modify Existing Fixtures

Change this . . . to this (aim downward)



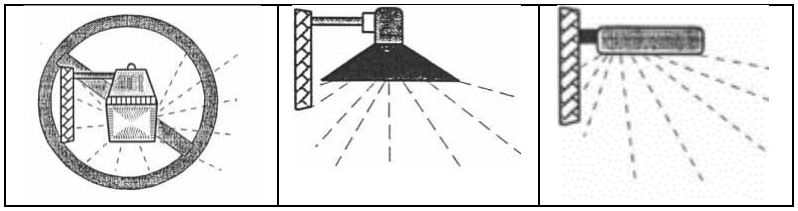
Floodlight:

Change this . . . to this (aim downward)



Wall Pack

Change this . . . to this or this



Yard Light | Opaque Reflector | Show Box

Replace bad lights with good lights.

You’ll save energy and money. You’ll be a good neighbour. And you’ll help preserve our view of the stars.

13 ANNEXURE D: METHODOLOGY DETAIL

13.1 Baseline Analysis Stage

In terms of VRM methodology, landscape character is derived from a combination of ***scenic quality***, ***receptor sensitivity*** to landscape change and ***distance*** from the proposed landscape change. The objective of the analysis is to compile a mapped inventory of the visual resources found in the receiving landscape, and to derive a mapped Visual Resource sensitivity layer from which to evaluate the suitability of the landscape change.

13.1.1 Scenic Quality

The scenic quality is determined making use of the VRM Scenic Quality Checklist that identifies seven scenic quality criteria which are rated with 1 (low) to 5 (high) scale. The scores are totalled and assigned an A (High), B (Moderate) or C (low) based on the following split:
A= scenic quality rating of ≥19;
B = rating of 12 – 18,
C= rating of ≤11

The seven scenic quality criteria are defined below:

- **Land Form**: Topography becomes more of a factor as it becomes steeper, or more severely sculptured.
- **Vegetation**: Primary consideration given to the variety of patterns, forms, and textures created by plant life.
- **Water**: That ingredient which adds movement or serenity to a scene. The degree to which water dominates the scene is the primary consideration.
- **Colour**: The overall colour(s) of the basic components of the landscape (e.g., soil, rock, vegetation, etc.) are considered as they appear during seasons or periods of high use.
- **Scarcity**: This factor provides an opportunity to give added importance to one, or all, of the scenic features that appear to be relatively unique or rare within one physiographic region.
- **Adjacent Land Use**: Degree to which scenery and distance enhance, or start to influence, the overall impression of the scenery within the rating unit.
- **Cultural Modifications**: Cultural modifications should be considered and may detract from the scenery or complement or improve the scenic quality of an area.

13.1.2 Receptor Sensitivity

Receptor sensitivity to landscape change is determined by rating the following factors in terms of Low to High:

- **Type of Users**: Visual sensitivity will vary with the type of users, e.g. recreational sightseers may be highly sensitive to any changes in visual quality, whereas workers who pass through the area on a regular basis may not be as sensitive to change.
- **Amount of Use**: Areas seen or used by large numbers of people are potentially more sensitive.
- **Public Interest**: The visual quality of an area may be of concern to local, or regional, groups. Indicators of this concern are usually expressed via public controversy created in response to proposed activities.

- **Adjacent Land Uses**: The interrelationship with land uses in adjacent lands. For example, an area within the viewshed of a residential area may be very sensitive, whereas an area surrounded by commercially developed lands may not be as visually sensitive.
- **Special Areas**: Management objectives for special areas such as Natural Areas, Wilderness Areas or Wilderness Study Areas, Wild and Scenic Rivers, Scenic Areas, Scenic Roads or Trails, and Critical Biodiversity Areas frequently require special consideration for the protection of their visual values.
- **Other Factors**: Consider any other information such as research or studies that include indicators of visual sensitivity.

13.1.3 Exposure

The area where a landscape modification starts to influence the landscape character is termed the Zone of Visual Influence (ZVI) and is defined by the U.K. Institute of Environmental Management and Assessment's (IEMA) *'Guidelines for Landscape and Visual Impact Assessment'* as 'the area within which a proposed development may have an influence or effect on visual amenity (of the surrounding areas).'

The inverse relationship of distance and visual impact is well recognised in visual analysis literature *(Hull, R.B. and Bishop, I.E., 1988)*. According to Hull and Bishop, exposure, or visual impact, tends to diminish exponentially with distance. The areas where most landscape modifications would be visible are located within 2 km from the site of the landscape modification. Thus, the potential visual impact of an object diminishes at an exponential rate as the distance between the observer and the object increases due to atmospheric conditions prevalent at a location, which causes the air to appear greyer, thereby diminishing detail. For example, viewed from 1000 m from a landscape modification, the impact would be 25% of the impact as viewed from 500 m from a landscape modification. At 2000m it would be 10% of the impact at 500 m.

Distance from a landscape modification influences the size and clarity of the landscape modification viewing. The Bureau of Land Management defines three distance categories:

i. ***Foreground / Middle ground***, up to approximately 6km, which is where there is potential for the sense of place to change;
ii. ***Background areas***, from 6km to 24km, where there is some potential for change in the sense of place, but where change would only occur in the case of very large landscape modifications; and
iii. ***Seldom seen areas***, which fall within the Foreground / Middle ground area but, as a result of no receptors, are not viewed or are seldom viewed.

13.1.4 Key Observation Points

During the Baseline Inventory Stage, Key Observation Points (KOPs) are identified. KOPs are defined by the Bureau of Land Management as the people (receptors) located in strategic locations surrounding the property that make consistent use of the views associated with the site where the landscape modifications are proposed. These locations are important in terms of the VRM methodology, which requires that the Degree of Contrast (DoC) that the proposed landscape modifications will make to the existing landscape be measured from these most critical locations, or receptors, surrounding the property. To define the KOPs, potential receptor locations were identified in the viewshed analysis, and screened, based on the following criteria:

- Angle of observation.
- Number of viewers.
- Length of time the project is in view.
- Relative project size.
- Season of use.
- Critical viewpoints, e.g., views from communities, road crossings; and
- Distance from property.

13.2 Assessment and Impact Stage

The analysis stage involves determining whether the potential visual impacts from proposed surface-disturbing activities or developments will meet the management objectives established for the area, or whether design adjustments will be required. This requires a contrast rating to assess the expected DoC the proposed landscape modifications would generate within the receiving landscape in order to define the Magnitude of the impact.

13.2.1 Contrast Rating

The contrast rating is undertaken to determine if the VRM Class Objectives are met. The suitability of landscape modification is assessed by comparing and contrasting existing receiving landscape to the expected contrast that the proposed landscape change will generate. This is done by evaluating the level of change to the existing landscape by assessing the line, colour, texture and form, in relation to the visual objectives defined for the area. The following criteria are utilised in defining the DoC:

- **None**: The element contrast is not visible or perceived.
- **Weak**: The element contrast can be seen but does not attract attention.
- **Moderate**: The element contrast begins to attract attention and begins to dominate the characteristic landscape.
- **Strong**: The element contrast demands attention, will not be overlooked, and is dominant in the landscape.

As an example, in a Class I area, the visual objective is to preserve the existing character of the landscape, and the resultant contrast to the existing landscape should not be notable to the casual observer and cannot attract attention. In a Class IV area example, the objective is to provide for proposed landscape activities that allow for major modifications of the existing character of the landscape. Based on whether the VRM objectives are met, mitigations, if required, are defined to avoid, reduce or mitigate the proposed landscape modifications so that the visual impact does not detract from the surrounding landscape sense of place.

Based on the findings of the contrast rating, the Magnitude of the Landscape and Visual Impact Assessment is determined.

13.2.2 Photomontages

As a component in this contrast rating process, visual representation, such as photo montages are vital in large-scale modifications, as this serves to inform Interested & Affected Parties and decision-making authorities of the nature and extent of the impact associated with the proposed project/development. There is an ethical obligation in this process, as visualisation can be misleading if not undertaken ethically. In terms of adhering to standards for ethical representation of landscape modifications, VRMA subscribes to the Proposed Interim Code of

Ethics for Landscape Visualisation developed by the Collaborative for Advanced Landscape Planning (CALP) (Sheppard, 2000). This code states that professional presenters of realistic landscape visualisations are responsible for promoting full understanding of proposed landscape changes, providing an honest and neutral visual representation of the expected landscape, by seeking to avoid bias in responses and demonstrating the legitimacy of the visualisation process. Presenters of landscape visualisations should adhere to the principles of:

- Access to Information
- Accuracy
- Legitimacy
- Representativeness
- Visual Clarity and Interest

The Code of Ethical Conduct states that the presenter should:

- Demonstrate an appropriate level of qualification and experience.
- Use visualisation tools and media that are appropriate to the purpose.
- Choose the appropriate level of realism.
- Identify, collect and document supporting visual data available for, or used in, the visualisation process.
- Conduct an on-site visual analysis to determine important issues and views.
- Seek community input on viewpoints and landscape issues to address in the visualisations.
- Provide the viewer with a reasonable choice of viewpoints, view directions, view angles, viewing conditions and timeframes appropriate to the area being visualised.
- Estimate and disclose the expected degree of uncertainty, indicating areas and possible visual consequences of the uncertainties.
- Use more than one appropriate presentation mode and means of access for the affected public.
- Present important non-visual information at the same time as the visual presentation, using a neutral delivery.
- Avoid the use, or the appearance of, ‘sales’ techniques or special effects.
- Avoid seeking a particular response from the audience.
- Provide information describing how the visualisation process was conducted and how key decisions were taken (Sheppard, 2000).

14 ANNEXURE E: DFFE DECLARATION OF INDEPENDENCE

environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF THE SPECIALIST, DECLARATION OF INTEREST AND UNDERTAKING UNDER OATH

	(For official use only)
File Reference Number:	
NEAS Reference Number:	DEA/EIA/
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment (EIA) Regulations, 2014, as amended (the Regulations)

PROJECT TITLE

Sun Central Cluster Phase 2 Solar PV assessment

Kindly note the following:

1. This form must always be used for applications that must be subjected to Basic Assessment or Scoping & Environmental Impact Reporting where this Department is the Competent Authority.
2. This form is current as of 01 September 2018. It is the responsibility of the Applicant / Environmental Assessment Practitioner (EAP) to ascertain whether subsequent versions of the form have been published or produced by the Competent Authority. The latest available Departmental templates are available at https://www.environment.gov.za/documents/forms.
3. A copy of this form containing original signatures must be appended to all Draft and Final Reports submitted to the department for consideration.
4. All documentation delivered to the physical address contained in this form must be delivered during the official Departmental Officer Hours which is visible on the Departmental gate.
5. All EIA related documents (includes application forms, reports or any EIA related submissions) that are faxed; emailed; delivered to Security or placed in the Departmental Tender Box will not be accepted, only hardcopy submissions are accepted.

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Attention: Chief Director: Integrated Environmental Authorisations
Environment House
473 Steve Biko Road
Arcadia

Queries must be directed to the Directorate: Coordination, Strategic Planning and Support at:
Email: EIAAdmin@environment.gov.za

Details of Specialist, Declaration and Undertaking Under Oath

Page 1 of 3

1. SPECIALIST INFORMATION

Specialist Company Name:	VRM Africa			
B-BBEE	Contribution level (indicate 1 to 8 or non-compliant)	4	Percentage Procurement recognition	0
Specialist name:	Stephen Stead			
Specialist Qualifications:	BA Honours Geography			
Professional affiliation/registration:	Association of Professional Heritage Practitioners			
Physical address:	Farm D3, Bossie Alleen Road, Moerasrivier			
Postal address:	P.O. Box 7233, Blanco			
Postal code:	6531	Cell:	0835609911	
Telephone:		Fax:		
E-mail:	steve@vrma.co.za			

2. DECLARATION BY THE SPECIALIST

I, Stephen Stead, declare that –

- I act as the independent specialist in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Signature of the Specialist

Visual Resource Management Africa

Name of Company:

22 April 2023

Date

3. UNDERTAKING UNDER OATH/ AFFIRMATION

I, Stephen Stead, swear under oath / affirm that all the information submitted or to be submitted for the purposes of this application is true and correct.

Signature of the Specialist

VRM Africa CC

Name of Company

25 MAY 2023

Date

SUID-AFRIKAANSE POLISIEDIENS
STATION COMMANDER
COMMUNITY SERVICE CENTRE
2023 -05- 25
GEORGE
SOUTH AFRICAN POLICE SERVICE

Signature of the Commissioner of Oaths

2023-05-25

Date