

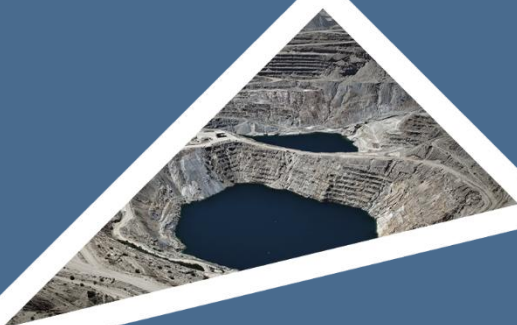


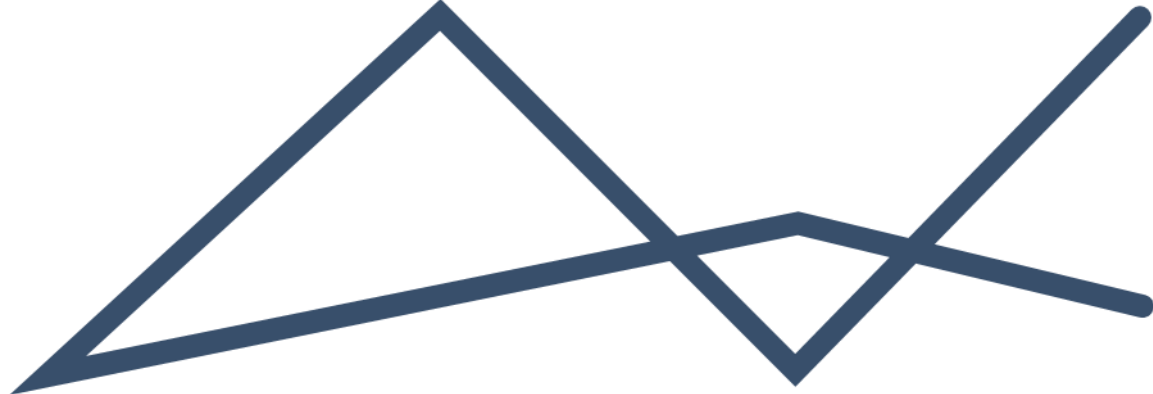
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SITE SENSITIVITY AND VERIFICATION REPORT

ACWA REDSTONE SOLAR PV PROJECT





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1 SCOPE AND PURPOSE

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided.

Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

- a) a desk top analysis, using satellite imagery;*
- b) a preliminary on-site inspection; and*
- c) any other available and relevant information.*

This Site Sensitivity and Verification Report (SSVR) is a record of the outcome of the site sensitivity verification in compliance with the requirements of the procedures for the assessment and minimum criteria for reporting on identified environmental themes in terms of Sections 24(5)(a) and (h) and 44 of the NEMA. The SSVR aims to:

- a) confirm or disputes the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.;*
- b) contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity; and*
- c) be submitted together with the relevant assessment report prepared in accordance with the requirements of the Environmental Impact Assessment Regulations(EIA Regulations).*



2 PROJECT BACKGROUND

2.1 PROJECT ASPECTS

ACWA Power Solar Reserve Redstone Solar Thermal Power Plant RF (Pty) Ltd (the Applicant) has appointed Environmental Impact Management Services (Pty) Ltd (EIMS) as the independent Environmental Assessment Practitioner (EAP) to undertake the Basic Assessment (BA) process and compile the Basic Assessment Report (BAR) for the ACWA Power Solar Reserve Redstone Solar Photovoltaic (PV) Power Project (Redstone PV).

The Redstone PV is proposed as an auxiliary photovoltaic facility to support the existing ACWA Power Solar Reserve Redstone Solar Thermal Power Plant (CSP) by supplying renewable energy for its auxiliary load requirements. The proposed PV facility forms part of the broader Redstone CSP Power Project and will be located within the same approved project area. The integration of the Redstone PV is intended to enhance operational efficiency and reduce reliance on external electricity sources through the generation of on-site renewable energy.

Table 1: Project description

		Location (DD MM SS)	
Project Aspect	Details	Latitude	Longitude
1. PV Footprint		North Western Corner 28°18'8.44"S	23°21'7.04"E
		North Eastern corner 28°18'7.91"S	23°21'17.88"E
		South Western Corner 28°18'29.42"S	23°21'14.36"E
		Sout Eastern corner 28°18'30.63"S	23°21'27.69"E
2.Substations	Mini-Substation	28°17'51.48"S	23°21'12.90"E
3. Subterranean powerlines	Cable Via Redstone CSP Facility	Start 28°17'56.94"S	23°21'10.86"E
		Middle 28°17'55.68"S	23°21'58.72"E
		End 28°17'11.04"S	23°21'52.67"E
4. Battery Energy Storage System (BESS)	30 MWh battery energy storage system	28°18'26.36"S	23°21'27.41"E



2.2 SITE LOCALITY AND LAYOUT

The proposed Redstone Solar Photovoltaic (PV) Facility and Battery Energy Storage System (BESS) will be developed within the existing Redstone Concentrated Solar Power (CSP) project area on a portion of the Remaining Extent of Farm 469, Hay Registration Division (Figure 1) near Postmasburg in the Northern Cape. The project is intended to provide a dedicated renewable energy source for the auxiliary electricity requirements of the operational Redstone CSP facility, thereby reducing reliance on externally supplied electricity and improving overall operational efficiency.

The PV facility will comprise a solar array with a generation capacity of up to approximately 19.5 MW (DC) and a design capacity of approximately 15 MW (AC), covering an area of approximately 19.5 ha. The facility will include associated electrical infrastructure such as inverter stations, transformers, underground cabling, and connection infrastructure linked to the CSP internal electrical network. The planned layout of the site is shown in Figure 2)

The project will utilise existing access roads, services, and operational infrastructure associated with the Redstone CSP facility wherever possible, thereby minimising the need for additional infrastructure development and reducing the overall environmental footprint of the development.

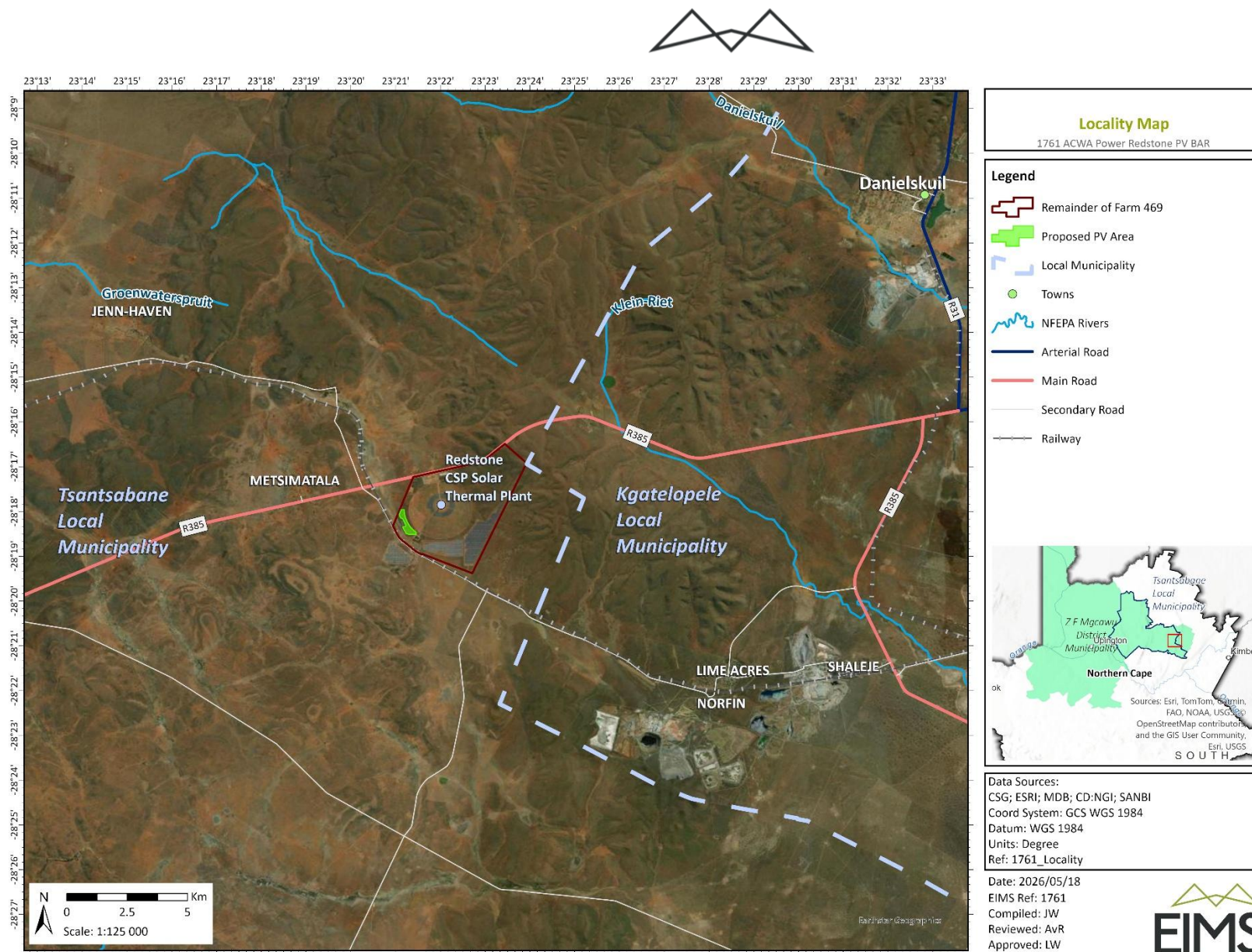


Figure 1: Site locality map.

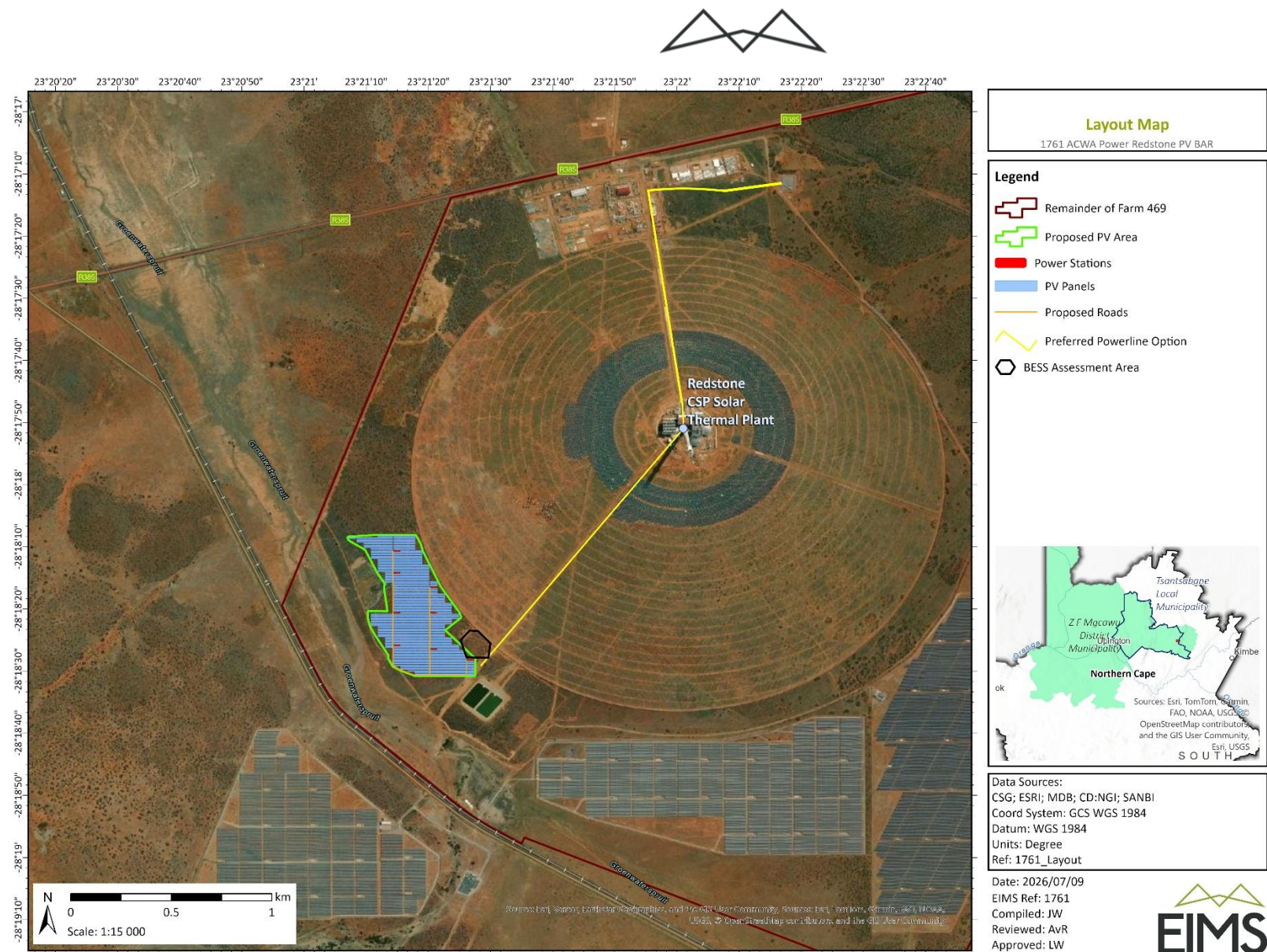


Figure 2: Project layout map.



2.3 DEA SCREENING TOOL ASSESSMENT

Regulation 16(1)(b)(v) of the Environmental Impact Assessment Regulations (GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998-NEMA)), requires that a Screening Report generated by the national web-based environmental screening tool for the specific site and activity must accompany any application for Environmental Authorization.

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening. On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 2 provides the proposed development area environmental sensitivity as provided by the national web-based environmental screening tool.

Table 2: Screening Tool Report- Proposed development area environmental sensitivity.

Aspect	Very High	High	Medium	Low
Agriculture Theme	☐	☐	☒	☐
Animal Species Theme	☐	☐	☒	☐
Aquatic biodiversity theme	☒	☐	☐	☐
Archaeological and Cultural Heritage Theme	☒	☐	☐	☐
Avian Theme	☐	☐	☐	☒
Civil Aviation (Solar PV) Theme	☐	☐	☐	☒
Defence Theme	☐	☐	☐	☒
Palaeontology Theme	☐	☐	☒	☐
Plant Species Theme	☐	☐	☐	☒
RFI Theme	☐	☐	☐	☒
Terrestrial Biodiversity Theme	☒	☐	☐	☐

3 SITE ASSESSMENT

Prior to commencing with a specialist assessment identified in the Screening Report, the current use of the land and the environmental sensitivity of the site, must be confirmed by undertaking a site sensitivity verification. The site sensitivity verification must be undertaken by an environmental assessment practitioner or a specialist. The site sensitivity verification must be undertaken through the use of:

- a desk top analysis, using satellite imagery;
- a preliminary on-site inspection; and

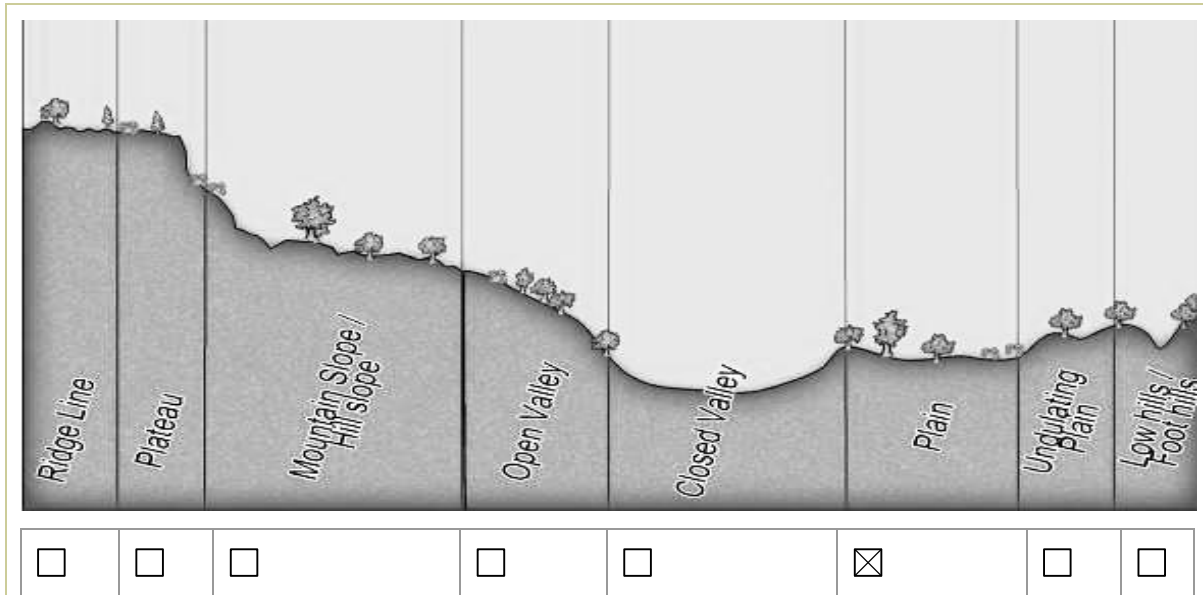


- any other available and relevant information.

The sub-sections below aim to provide context of the existing site conditions to support the site sensitivity and verification.

3.1 GRADIENT

The general gradient characteristics of the site:



3.2 SENSITIVE AREAS

<i>Is the site located in the immediate vicinity of the following:</i>	Yes	No	Comment
Erosion Channels or areas of severe erosion/ destabilized soils	☒	☐	Some signs of erosion are present on site, these are noticeable around the bare areas such as existing service roads which are linked to the Redstone CSP.
Wetlands (within 32m)	☒	☐	The western edge of the site is within the regulated area and at the north western extent touches the 32m buffer of the delineated wetland area.
Unstable slopes or geological features (rocky outcrops)	☐	☒	The area has stable topographical distribution with very slight elevation changes resulting a relatively uniformly flat surface.
Bare areas	☒	☐	Some bare areas are present adjacent to existing service roads which lead to the footprint area of the actual PV as well as towards the existing Redstone CSP.
Other Sensitive or risk areas?	☐	☒	



<i>Is the site located in the immediate vicinity of the following:</i>	Yes	No	Comment
Are any existing servitudes and structures directly or indirectly affected by the proposed sites and routes (e.g. Eskom, public road servitudes and restrictions-60m from National Road, farmer's water/irrigation supplies, etc.)?	☐	☒	

3.3 VEGETATION

<i>Which of the listed descriptions best describes the general groundcover on and around the site?</i>				
☐ Natural veld - good condition	☒ Natural veld with scattered aliens	☐ Natural veld with heavy alien infestation	☐ Veld dominated by alien species	☐ Gardens
☐ Sport field	☐ Cultivated land	☐ Paved surface	☐ Building or other structure	☐ Bare soil
Comments on vegetation composition:		General landscaped was semi-arid shrubveld dominated by grassland, with areas of disturbed old lands. Vegetation composition includes grasses, dwarf shrubs, and small trees such as <i>Vachellia species</i> and <i>Tarchonanthus littoralis</i> .		
Comments on weed species/type		Weeds which belong to the following genera were observed in disturbed areas: <i>Solanum species</i> , <i>Simisa foetida</i> , <i>Tagetes species</i> (Khaki bush), <i>Xanthium spinosum</i> , and <i>Datura species</i> .		

3.4 LAND COVER/ USE DESCRIPTION

The SSVR aims to:

- confirm or dispute the current use of the land and the environmental sensitivity as identified by the screening tool, such as new developments or infrastructure, the change in vegetation cover or status etc.; and
- contain motivation and evidence (e.g. photographs) of either the verified or different use of the land and environmental sensitivity.

The prevailing land use within the project area and surrounding environment consists primarily of renewable energy infrastructure, livestock grazing, and mining-related activities. The site is located adjacent to the operational Redstone CSP facility within an established renewable energy development corridor. Grazing activities occur on surrounding farms, while no intensive agricultural activities are present due to the area's low agricultural potential. The proposed Redstone PV facility is considered compatible with the existing land-use character of the area.



Table 3: Site photographs.

	
Some erosion noted along the existing service road adjacent to the planned PV footprint	A view toward the drainage line adjacent to the proposed footprint of the PV.



Example of a wild olive (*Olea europaea*) present on site



Example of *Tetraena* sp present on site



Example of the vegetation present on site 1



Example of the vegetation present on site 2



4 VERIFICATION FINDINGS AND MOTIVATION

The Screening Report identifies preliminary development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmentally sensitive features on the site based on the site sensitivity screening (Section 2.3). On the basis of the sensitivities identified in the site sensitivity screening, a list of preliminary specialist studies required to be considered in the Impact Assessment process are provided. Table 4 below lists the screening tool identified specialist studies and associated screening tool sensitivity. Based on the findings of the site verification process (Section 3) a verified, or suggested revised sensitivity is provided together with an associated motivation.



Table 4: Assessment for specialist studies and motivation.

Screening Specialist Required:	Tool Study	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation
Agricultural Impact Assessment		Medium	Low	Compliance Statement	An amendment letter as an appendix to the existing study will be undertaken stating the continued applicability of the report and to update any sections which should not align with the DFFE Specialist protocol as identified by the screening report.
Landscape/Visual Impact Assessment		N/A		Compliance Statement	A compliance statement will be undertaken with the original assessment being appended in order to ensure continued adequacy.
Archaeological and Cultural Heritage Impact Assessment		Very High	Low	Full Study	A Heritage Impact Assessment will be undertaken in compliance with the Minimum Standards for Heritage Specialist Studies in terms of Section 38 of the National Heritage Resources Act (No. 25 of 1999).
Palaeontology Impact Assessment		Medium	Low	Compliance Statement	According to the SAHRIS palaeo sensitivity map, the site falls with the Medium to Low and Insignificant/Zero palaeo sensitivity. In addition, no fossiliferous outcrops were noted within the site. Considering that for the Insignificant/Zero palaeo sensitivity, no palaeontological studies are required while for Low-Medium palaeo sensitivity, a desktop palaeontological study will be conducted by a qualified palaeontologist.
Terrestrial Biodiversity Impact Assessment		Very High	Medium	Full Study	The DFFE Screening Tool found that the Relative Terrestrial Biodiversity Sensitivity Theme is Very High-Sensitive. Although there have been disturbances on site, the vegetation is indigenous with some invasive species present. Therefore, a Terrestrial Biodiversity Impact Assessment must be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN 320, 2020 as amended)



Screening Specialist Required:	Tool Study	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation
					to confirm presence of Flora or Fauna, Avifauna, SCC, or protected species within the development site, verify site terrestrial biodiversity sensitivity and provide necessary mitigation measures.
Aquatic Biodiversity Impact Assessment		Very High	Very High	Full Study	Based on the DFFE Screening Tool, the site overlaps very-high sensitivity Freshwater Ecosystem Priority Areas (FEPA). Subsequently, an Aquatic Biodiversity Impact Assessment be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Aquatic Biodiversity (GN 320, 2020 as amended) to amongst others, provide a description of the aquatic biodiversity and ecosystems on the site, the threat status of the ecosystem and species as identified by the screening tool, an indication of the national and provincial priority status of the aquatic ecosystem, a description of the ecological importance and sensitivity of the aquatic ecosystem and a detailed assessment of the potential impacts of the proposed development and buffer requirements.
Civil Aviation Assessment		Low	Low	Other	Comment from the CAA will be requested in regard to the previous approval of the project to establish applicability.
Defence Assessment		Low	Low	None	No specific study nor protocol in place,. The Low sensitivity for the Defence theme therefore will not require any assessment.
RFI Assessment		Low	Low	Other	The proposed PV facility will be in keeping with the infrastructure surrounding the site including several solar PV facilities and the Redstone CSP. The Square Kilometre Array will be consulted as a key I&AP alongside any other relevant stakeholders in the area.
Geotechnical Assessment		N/A		Other	The geotechnical report developed for the construction of the adjacent CSP will



Screening Specialist Required:	Tool Study	Level of Sensitivity:	Suggested Sensitivity:	Required level of Assessment	Motivation
					be utilised to obtain the relevant geotechnical information.
Socio-Economic Assessment		N/A		None	An amendment letter as an appendix to the existing study will be undertaken stating the continued applicability of the report.
Plant Species Assessment		Low	Medium	Full Study	The DFFE Screening Tool found that the Relative Terrestrial Biodiversity Sensitivity Theme is Very High-Sensitive. Although there have been disturbances on site, the vegetation is indigenous with some invasive species present. Therefore, a Terrestrial Biodiversity Impact Assessment must be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN 320, 2020 as amended) to confirm presence of Flora or Fauna, Avifauna, SCC, or protected species within the development site, verify site terrestrial biodiversity sensitivity and provide necessary mitigation measures.
Animal Species Assessment		Medium	Medium	Full Study	The DFFE Screening Tool found that the Relative Terrestrial Biodiversity Sensitivity Theme is Very High-Sensitive. Although there have been disturbances on site, the vegetation is indigenous with some invasive species present. Therefore, a Terrestrial Biodiversity Impact Assessment must be undertaken in line with the Protocol for The Specialist Assessment and Minimum Report Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN 320, 2020 as amended) to confirm presence of Flora or Fauna, Avifauna, SCC, or protected species within the development site, verify site terrestrial biodiversity sensitivity and provide necessary mitigation measures.