

**HERITAGE SITE SENSITIVITY VERIFICATION:  
EZELSJACHT 110 MW SOLAR ENERGY FACILITY AND  
ASSOCIATED INFRASTRUCTURE, WESTERN CAPE**

Required under Section 38(8) of the National Heritage Resources Act (No. 25 of 1999)  
as part of a Heritage Impact Assessment.

*Report for:*

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## 1. INTRODUCTION

South Africa Mainstream Renewable Power Developments (Pty) Ltd (“Mainstream”) is proposing the construction and operation of one (1) Solar photovoltaic (PV) Energy Facility (SEF), Battery Energy Storage System (BESS), and associated infrastructure with a generation capacity of up to 110 megawatts.

In order to evacuate the energy generated by the SEF to supplement the national grid, Mainstream is also proposing an electrical grid infrastructure/ grid connection project which will be assessed in a separate Basic Assessment Process (i.e. Electricity Grid Infrastructure (EGI) for SEF).

The proposed SEF site is located approximately 13 km south-east of the town De Doorns, within the Cape Winelands District Municipality of the Western Cape Province. The site proposed for the SEF component falls entirely within the Breede Valley Local Municipality.

Applicant	Project Name	Capacity (MW)	Affected Property
South Africa Mainstream Renewable Power Developments (Pty) Ltd	Ezelsjacht Solar PV Energy Facility (SEF)	110 MW <sub>ac</sub>	Portion 6 of the Farm Ratelbosch No. 149

The overall objective of the proposed development is to generate electricity by means of renewable energy technologies capturing solar energy to feed into the national grid.

The proposed SEF will consist of PV Panels, internal and access roads (with a width of up to 12 m during construction), a construction laydown area/camp, Operation and Maintenance (O&M) Building and the Independent Power Producer (IPP) 33/132kV portion of the onsite substation. The solar PV energy facility will have a generation capacity of up to 110 MW. In addition to the infrastructure mentioned above, the SEF will also potentially include energy storage infrastructure if it is deemed economically feasible to do so. This will consist of an area for a Battery Energy Storage System (BESS) covering an extent of up to approximately 5 hectares (ha). Currently, the battery technologies being considered are either Solid State Batteries or Redox Flow Batteries.

The findings of the respective specialist studies will be used to inform the location of the Solar PV arrays. All identified sensitive and/or no-go areas (including their respective buffers) will be avoided accordingly, as required. However, as part of the proposed application / Scoping & Environmental Impact Assessment (EIA) process for the SEF project, various site area / location alternatives may be assessed for the associated infrastructure such as the O&M Buildings, IPP Substations and BESS. This is however still to be confirmed and will be communicated to the specialists.

The site areas / location alternatives for the associated infrastructure such as the O&M Buildings, IPP Substations and BESS, will also need to be assessed against the ‘no-go’ alternative. The ‘no-go’ alternative is the option of not constructing the respective projects, where the status quo of the current status and/or activities on the site would prevail.

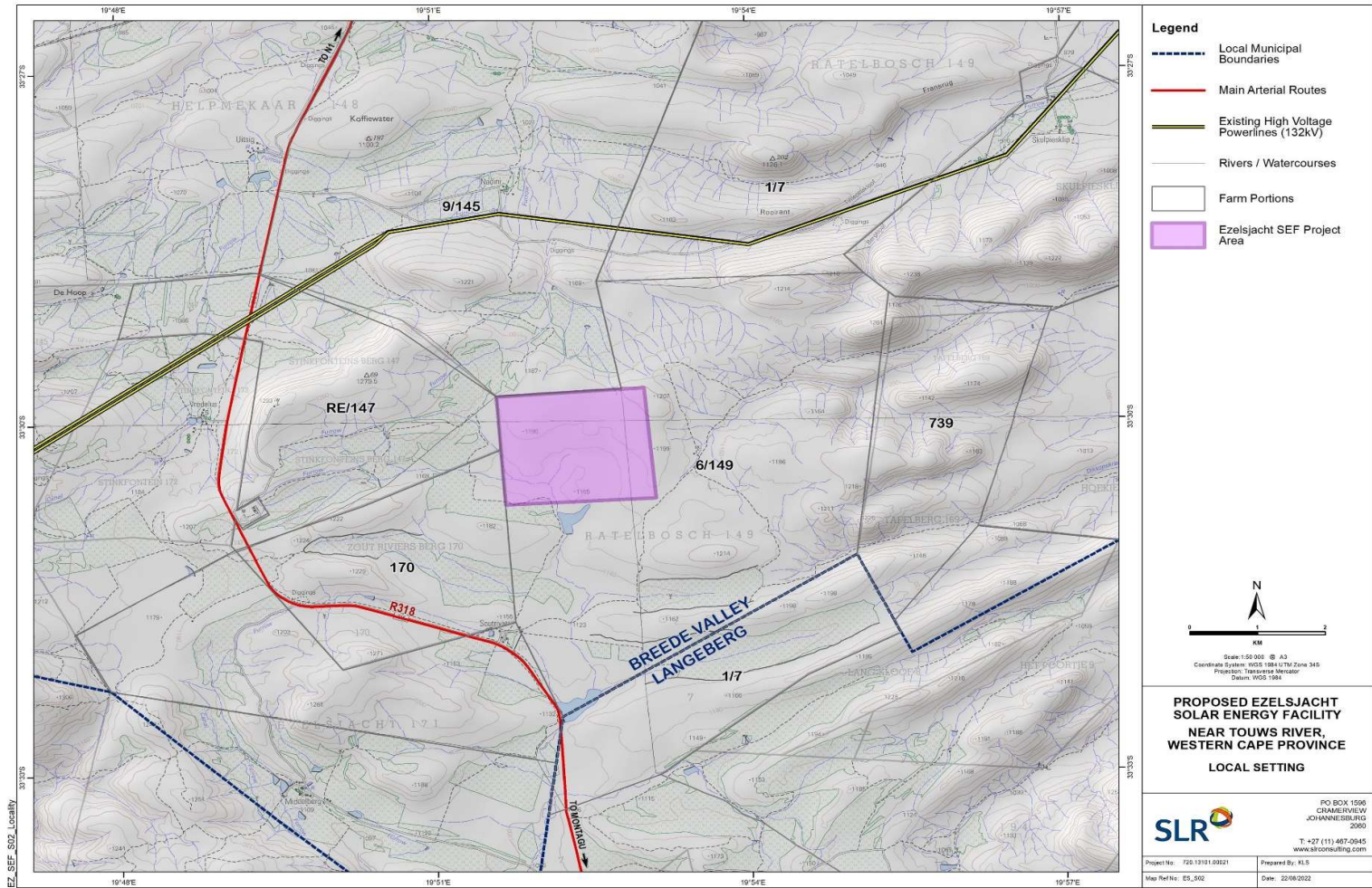


Figure 1-1: Locality Map of the Ezelsjacht SEF

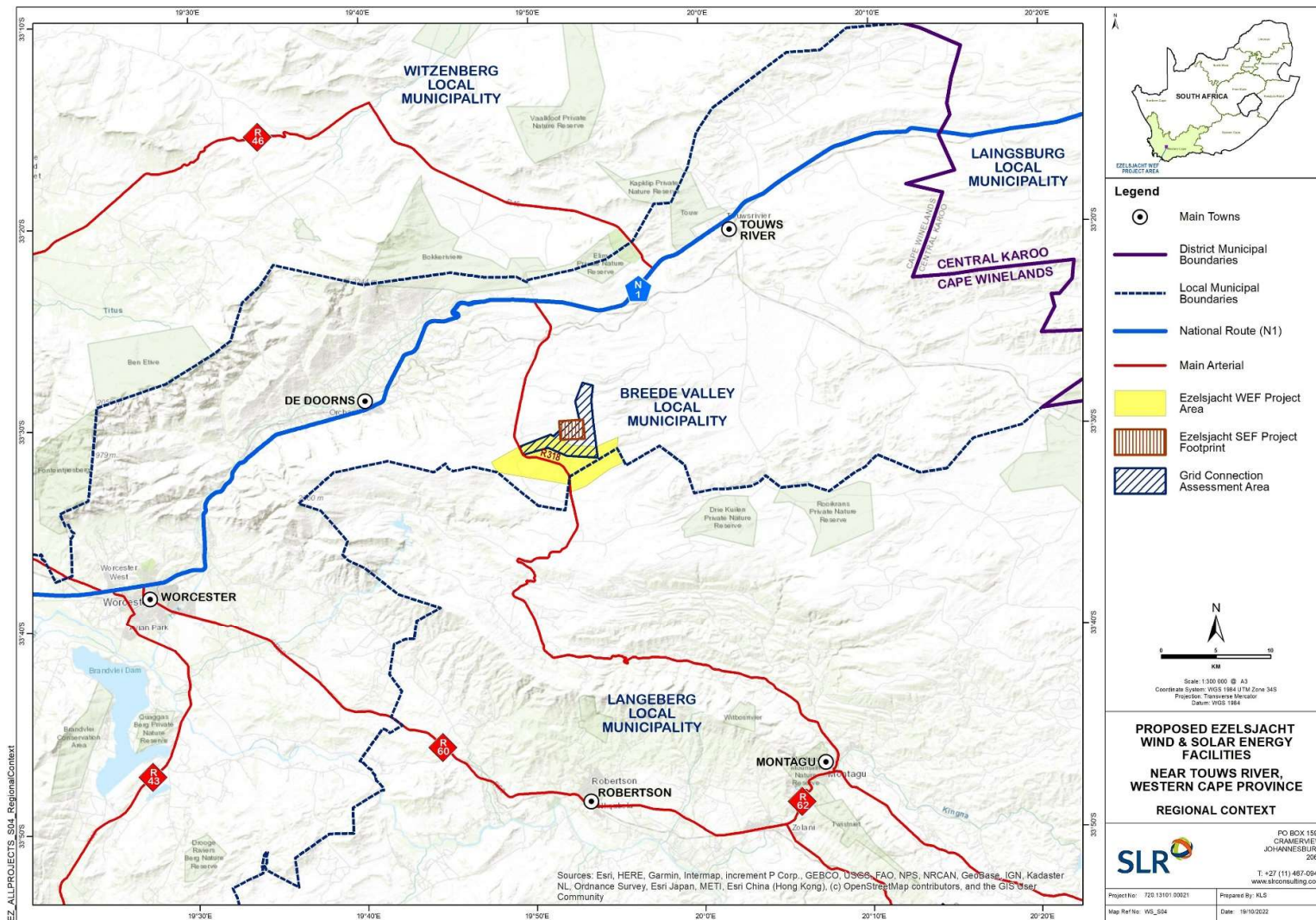


Figure 2-2: Regional Context of the Ezelsjacht SEF in relation to other projects proposed for Ezelsjacht (separate applications)

## 2. TECHNICAL DETAILS FOR THE PROPOSED DEVELOPMENT

Ezelsjacht SEF infrastructure	
Location of the site (centre point)	33°30'21.04"S 19°53'33.22"E
Application site area	+/- 370 hectares
Affected Farm Portions	Portion 6 of the Farm Ratelbosch No. 149
SG Codes	C08500000000014900006
Export Capacity	Up to 110 MW
Height of PV panels	Up to 5m
Operations and Maintenance Complex (25 hectares): Shared infrastructure with associated grid	<ul style="list-style-type: none"> <li>• Operations and Maintenance Building approximately 1 hectares</li> <li>• Temporary construction laydown area, approximately 3ha to be located on the site identified for the substation. It should be noted that no construction camps will be required in order to house workers overnight as all workers will be accommodated in the nearby town.</li> <li>• On-site Grid Connection and Substation: 33kV/132kV IPP portion of shared on site/step up substation.</li> <li>• A Battery Energy Storage System (BESS) will be located next to the IPP portion / yard of the shared onsite 33/132kV substation and will cover an area of 5 ha. The storage capacity and type of technology would be determined at a later stage during the development phase, the types of technologies to be considered will be either redox flow or solid state.</li> </ul>
Access Roads	Existing access roads will be utilised as far as possible. The width of the access roads will be up to approximately 12m wide.
Fencing	Galvanized steel and 1.8 m in height.
Associated Infrastructure	<ul style="list-style-type: none"> <li>• Cabling: Underground 33kV cables, buried along internal access roads where feasible; and outside of the road footprints and where there are topography and environmental concerns. Overhead 33kV power lines will be constructed, using monopole structures where burying is not possible due to technical, geological, environmental or topographical constraints. 33kV overhead power lines supported by 132 kV pylons of</li> </ul>

	<p>approximately 22 m high will be required, as well as tracks for access to the pylons.</p> <ul style="list-style-type: none"> <li>• Electrical transformers adjacent to Panels (typical footprint of up to approximately 2m x 2m) to step up the voltage to between 11kV and 33kV;</li> <li>• Other Associated infrastructure (to be confirmed)</li> </ul>
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In terms of the National Environmental Management Act (Act 107 of 1998, as amended) (NEMA) Environmental Impact Assessment (EIA) Regulations [4 December 2014, Government Notice (GN) R982, R983, R984 and R985, as amended], various aspects of the proposed development may have an impact on the environment and are considered to be listed activities. These activities require environmental authorisation (EA) from the National Competent Authority (CA), namely the Department of Forestry, Fisheries and the Environment (DFFE), prior to the commencement thereof. One (1) application for EA for the proposed development will be submitted to the DFFE, in the form of a Scoping & EIA process in terms of the NEMA EIA Regulations of 2014 (as amended).

In accordance with GN 320 and GN 1150 (20 March 2020)<sup>1</sup> of the NEMA EIA Regulations of 2014 (as amended), prior to commencing with a specialist assessment, a site sensitivity verification must be undertaken to confirm the current land use and environmental sensitivity of the proposed project area as identified by the National Web-Based Environmental Screening Tool (i.e., Screening Tool). ASHA Consulting (Pty) Ltd has been commissioned to verify the sensitivity of the Ezelsjacht SEF site under these specialist protocols.

### 3. SITE SENSITIVITY VERIFICATION METHODOLOGY

Initial work was carried out using satellite aerial photography in combination with the author’s accumulated knowledge of the local and regional landscape. This was used to locate areas that might be sensitive. Desktop research was also used to inform on the heritage context of the area and this was followed up with a brief site visit on 24 and 25 October 2022 to verify the sensitivity. The site visit aimed to drive as near as possible to the proposed footprint (there were no roads leading into that area) and to follow other nearby roads in order to see the landscape and determine the likelihood of heritage features being present.

### 4. OUTCOME OF SITE SENSITIVITY VERIFICATION

Figure 1 is extracted from the DFFE screening tool report and shows the archaeological and heritage sensitivity to be low throughout the study area. The site has not yet been surveyed in detail but a close examination of aerial photography and a brief site visit that involved driving the roads on the site reveals that the site is largely mountain land which is of low sensitivity from an archaeological point of view. Other surveys in high-lying areas show that archaeological sites are very rare in such contexts and, when present, are ephemeral and insignificant. The survey showed that the only place where sensitive archaeological heritage sites might be found is adjacent to the river in the southwestern part of the site, but rivers are generally avoided by

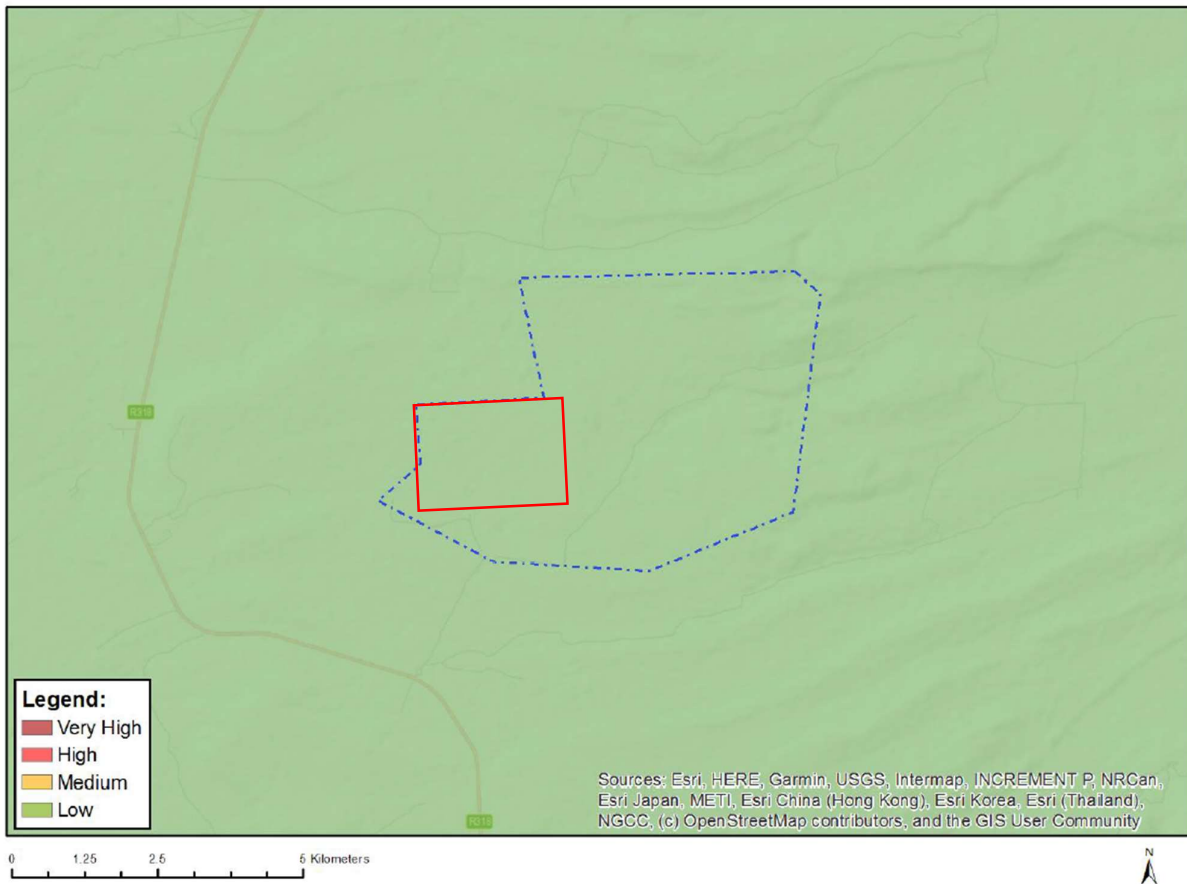
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<sup>1</sup> GN 320 (20 March 2020): Procedures for The Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(A) and (H) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation

development. There are still some heritage concerns though. These relate to (1) historical farm complexes and (2) scenic routes and the cultural landscape.

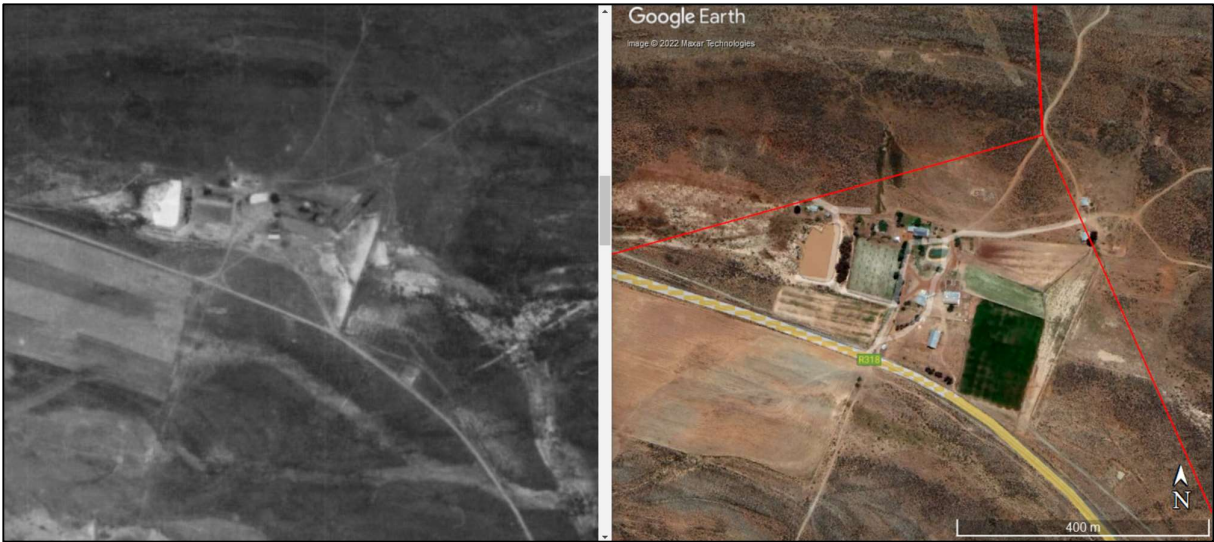
Farm complexes are generally places where high densities of historical resources are typically found, even if there is very little elsewhere. Figure 2 shows the Soutrivier complex (the only farmstead in the study area) in 1949 which indicates that it is greater than 60 years of age and thus contains heritage resources.

Figures 2 and 3 show that the R318 is more than 70 years old and was realigned between 1949 and 1967. To the south of the site, the Rooihogte Pass and Burger’s Pass are important parts of the road but are too far away to be affected in any way by the proposed development. The project would also be well-screened from both passes by intervening topography. The landscape around this road is very scenic and the road can certainly be regarded as a scenic route of local significance. Furthermore, the area gets visited during the snow season and is thus a tourist destination. The broader area is therefore considered to be a cultural landscape of at least medium significance. It is noted, however, that the PV site should be entirely or at least almost entirely screened by an intervening area of high ground and thus should not be visible from the R318. This means that impacts to the cultural landscape and scenic route are of little to no concern for this project.



**Figure 1:** Screening tool map showing the entire site to be of low sensitivity. The proposed development footprint is in the red polygon.





**Figure 2:** 1949 (225\_008\_02864) and modern (Google Earth) aerial views showing the Soutrivier farmstead on Ezelsjacht 171/remainder. The R381 follows an original alignment.



**Figure 3:** 1967 (534\_011\_08312) and modern (Google Earth) aerial views showing the Soutrivier farmstead on Ezelsjacht 171/remainder.

The site visit showed that there are indeed historical structures at the farm complex. The main house dates to at least the early 20<sup>th</sup> century and may well have been built in phases (Figure 4). It was not examined in detail as it would not be directly impacted. Other structures in the farmstead also appear to be from the early 20<sup>th</sup> century (Figures 5 & 6). A cottage located to the northwest of the farmstead is also older than 60 years (Figure 7). It lies to the east of the PV study area. A ruined stone-walled kraal (Figures 8 & 9) and a farm graveyard were also found to occur (Figures 10 to 12). The vast majority of the site, however, including all of the PV site, is considered to be of low sensitivity for archaeology, graves and built heritage. Figures 13 and 14

show the landscape in the vicinity of the PV site. It is evident that the area is very uniform without obvious landscape features that would have attracted precolonial settlement.



**Figure 4:** *The main farmhouse.*



**Figure 5:** *Farm shed with stone walled kraal enclosures outside it.*



*Figure 6: Farm shed.*



*Figure 7: Small cottage located away from the farmstead.*



**Figure 8:** Remnants of a stone-walled kraal.



**Figure 9:** Remnants of a stone-walled kraal.



**Figure 10:** Stone walled-farm graveyard with entrance facing west.



**Figure 11:** Two stone-packed graves in the north-eastern corner of the graveyard.



**Figure 12:** One stone-packed grave with some calcrete in the south-western corner of the graveyard.



**Figure 13:** View towards the northwest through the solar PV site from a small rocky outcrop close to its south-eastern corner.



**Figure 14:** View towards the south approximately along the eastern edge of the PV site (which would extend towards the right from this view). The small cottage and blue gum stand are visible in mid-picture.

The heritage specialist thus disputes the uniform low sensitivity for the wider site (Figure 1), noting that the farmstead and graveyard are of high sensitivity and the R318 passing through the area is of at least medium sensitivity. The broader cultural landscape is also considered to be of medium sensitivity. These wider issues are not reflected on the screening tool map which tends to only show specific resources and is thus inadequate.

## 5. CONCLUSION

The specific footprint area identified for solar PV development does indeed appear to be of low sensitivity due to the lack of structures or landscape features attractive for settlement. It is therefore suggested here that the assessment should proceed into the EIA phase. There are no fatal flaws in terms of the solar PV site.

## 6. PLAN OF STUDY FOR EIA PHASE

Under the National Heritage Resources Act (No. 25 of 1999; NHRA) it is required that an assessment of heritage impacts be included in every EIA. As such, and because there is a chance of impacts occurring, a full heritage impact assessment (HIA) will need to be prepared and submitted to Heritage Western Cape (HWC) for comment. The report will need to comply with the requirements of HWC. It is envisaged that HWC will require specialist assessments of archaeology and palaeontology as part of the HIA, although Dr John Almond (palaeontologist) has suggested that if the site is of low palaeontological sensitivity then he would recommend no further study for that aspect (this would then be reflected in the NID). A follow-up field survey that includes some walking transects will be done during the EIA phase. This will confirm the findings of the present site verification study. The study should also comply with Appendix 6 of the 2014 EIA Regulations.