

14 October 2022

SiVEST Environmental (Pty) Ltd
4 Pencarrow Crescent,
La Lucia Ridge Office Estate,
Umhlanga Rocks,
4320

Attention: Rendani Rasivhetshele

PART 1 ENVIRONMENTAL AUTHORISATION (EA) AMENDMENT PROCESS FOR EXTENDING THE VALIDITY OF THE EA BY AND ADDITIONAL 3 YEARS FOR THE AUTHORISED 75MW MIERDAM PHOTOVOLTAIC (PV) SOLAR ENERGY FACILITY (SEF), LOCATED NEAR PRIESKA IN THE SIYATHEMBA LOCAL MUNICIPALITY, PIXLEY KA SEME DISTRICT MUNICIPALITY IN THE NORTHERN CAPE PROVINCE OF SOUTH AFRICA – HERITAGE SPECIALIST OPINION

1. INTRODUCTION

PGS Heritage (Pty) Ltd (PGS), a heritage specialist consultancy, was requested to evaluate the request to extend the validity of the Environmental Authorisation by an additional 3 years of the authorised 75MW Mierdam PV Solar Energy Facility (SEF) (12/12/20/2320/2/1). The original Heritage Impact Assessment was completed by Dr JA van Schalkwyk (December 2011).

2. PROJECT DESCRIPTION

South Africa Mainstream Renewable Power Mierdam (Pty) Ltd (hereafter referred to as “Mainstream”) was issued with an Environmental Authorisation (EA) for the proposed 75MW Mierdam Photovoltaic (PV) Solar Energy Facility (SEF), located near Prieska in the Siyathemba Local Municipality, Pixley ka Seme District Municipality in the Northern Cape Province of South Africa on September 2012 (DFFE Reference No.: 12/12/20/2320/2/1).

After the issuing of the original EA in September 2012, the following amendments have been undertaken and granted for the authorised SEF:

- The EA was amended on 19 June 2015 to extend the validity of the EA as well as to amend the contact details of the holder of the EA (DFFE Reference No.: 12/12/20/2320/2/AM1).
- The EA was amended on 22 September 2017 to extend the validity period of the EA (DFFE Reference No.: 12/12/20/2320/2/AM2).
- The EA was amended on 26 of August 2020 to extend the validity period of the EA (DFFE Reference No.: 12/12/20/2320/2/AM3).



- The EA was amended on 21 May 2021 to split the EA into two portions, the IPP portion (DFFE Reference No.: 12/12/20/2320/2/1).
- The EA was amended on 21 May 2021 to split the EA into two portions, the Eskom portion (DFFE Reference No.: 12/12/20/2320/2/2).

The Mierdam Photovoltaic (PV) Solar Energy Facility is to be constructed within the project site, which comprises the following farm portion:

- Portion 1 of Kaffirs Kolk No. 118

The following infrastructures have been authorised by the DFFE:

- A solar PV facility with a capacity to generate 75MW
- The panel arrays of approximately 15m x 4m in the area
- Office and maintenance buildings
- Internal access roads
- Cables/strings to connect PV arrays to DC to AC inverters
- On-site substation (IPP Portion of the shared on-site substation)

3. SPECIALISTS' TERMS OF REFERENCE

- A detailed motivation as to why the Department should extend the commencement period of the authorised development, including the advantages and disadvantages associated with the approval or refusal to the request for extension.
- The status (baseline) of the environment (social and biophysical) that was assessed during the initial assessment (by the relative specialist, if applicable);
- The current status of the assessed environment (social and biophysical) (by the relative specialist, if applicable).
- A review of all specialist studies undertaken, and a detailed assessment, including a site verification report providing an indication of the status of the receiving environment (by the relative specialist, if applicable);
- The terms of reference for the specialist reports and declaration of interest of each specialist must be provided.
- The report mentioned above, must indicate if the impact rating as provided in the initial assessment remains valid; if the mitigation measures provided in the initial assessment are still applicable; or if there are any new mitigation measures which need to be included into the EA, should the request to extend the commencement period be granted by the Department.
- An indication if there are any new assessments/guidelines which are now relevant to the authorised development which were not undertaken as part of the initial assessment, must be taken into consideration and addressed in the report.

- A description and an assessment of any changes to the environment (social and biophysical) that has occurred since the initial EA was issued;
- A description and an assessment of the surrounding environment, in relation to new developments or changes in land use which might impact on the authorised project, the assessment must consider the following:
 - similar developments within a 30km radius.
 - Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land.
 - Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.
 - The cumulative impacts significance rating must also inform the need and desirability of the proposed development.
 - A cumulative impact environmental statement on whether the proposed development must proceed.

4. ANY NEW GUIDELINES/ PROTOCOLS

None

5. CURRENT BASELINE HERITAGE STATUS

There has been no significant change to the baseline heritage environment since the original assessment.

6. MOTIVATION FOR EXTENDING THE VALIDITY EXTENSION

Mainstream is now proposing to undertake a Part 1 EA Amendment process to extend the validity of the Environmental Authorisation by an **additional 3 years**.

The key motivating factor for the request to amend the EA validity period, is to ensure that the applicant has a project that is compliant with the requirements of the Department of Mineral Resources and Energy ("DMRE") (previously the Department of Energy) Renewable Energy Independent Power Producer Procurement ("REIPPP") Programme, specifically with regards to the requirement for a valid EA. Due to various reasons, outside of the Applicant's control, the planned announcements and roll-out of bidding rounds have not occurred as previously planned for. As a result, the REIPPP Programme

has been delayed, resulting in the project not yet being selected as a preferred bidder, further necessitating the need for the EA validity period to be extended.

Extension of the validity of the EA will ensure that the EA remains valid for the undertaking of the authorised activities such that the project can be bid into future bidding rounds of the REIPPP Programme or similar programmes.

7. SPECIALIST COMMENT

We note that no changes to the layout and infrastructure from the original layouts are proposed and only the extension of the EA.

Our evaluation of the original HIA and subsequent documentation has shown that we envisaged no changes to the projected impact. We have further evaluated the cumulative impact related to the number of other proposed wind and solar renewable projects in the vicinity of the approved Mierdam SEF (**Table 1**).

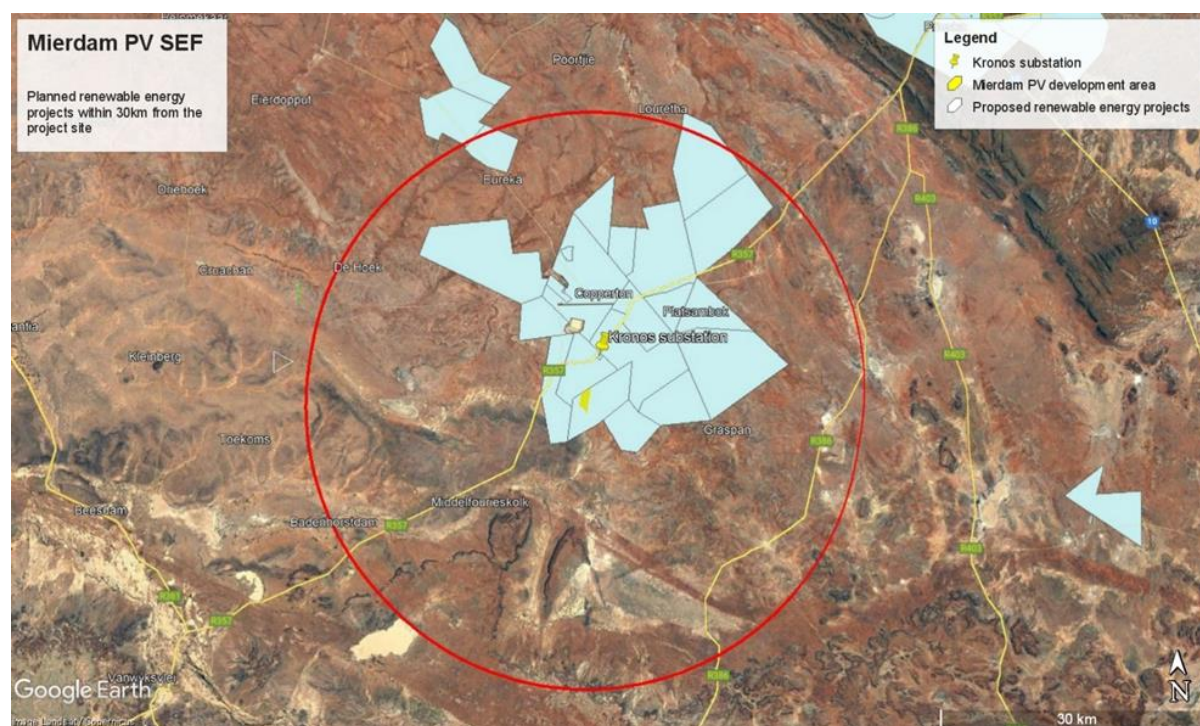


Table 1: Impact rating - Cumulative

ENVIRONMENTAL PARAMETER	ISSUE / IMPACT / ENVIRONMENTAL EFFECT / NATURE	ENVIRONMENTAL SIGNIFICANCE BEFORE MITIGATION									RECOMMENDED MITIGATION MEASURES	ENVIRONMENTAL SIGNIFICANCE AFTER MITIGATION								
		E	P	R	L	D	I / M	TOTAL	STATUS (+ OR -)	S		E	P	R	L	D	I / M	TOTAL	STATUS (+ OR -)	S
Cumulative Phase																				
Heritage Resources	The extent that the addition of this project will have on the overall impact of developments in the region on heritage resources.	4	2	4	4	4	2	36	-	Medium	It can clearly be noted that the area in general is abundant with Stone Age and historical remains. However, until a regional detailed study is commissioned by SAHRA. No further mitigations measures can be proposed other than those already recommended for the site-specific mitigation of sites in this report.	4	1	4	4	4	1	17	-	Low

Table 2: projects within a 30km radius

Name	DFFE registration	Status
8 Infinite energy (PTY) LTR 140mw wind energy facility near Copperton, Northern Cape Province	12/12/20/2099	Approved
Construction of a 40MW Solar Photovoltaic Facility on Mierdam Farm near Prieska, within the Siyathemba Local Municipality in the Northern Cape Province	12/12/20/2320/2	Approved
Proposed Helena Solar 3: 75mW Solar pV Energy Facility near Copperton within Siyathemba Local Municipality in Northern Cape Province	14/12/16/3/3/2/767	Approved
Proposed Helena Solar 2: 75 mW Solar pV Energy Facility near Copperton, Northern Cape Province	14/12/16/3/3/2/766	Approved
Proposed Helena Solar 3: 75mW Solar pV Energy Facility near Copperton within Siyathemba Local Municipality in Northern Cape Province	14/12/16/3/3/2/765	Approved
Proposed PV2 Photovoltaic (Solar) energy facility on farm Klipgats Pan near Cooperton, Northern Cape Province	14/12/16/3/3/2/491	Approved
Proposed PV6 energy plants o Farm Klipgats Pan near Copperton, Northern Cape Province	14/12/16/3/3/2/490	In process
Proposed PV5 energy plants o Farm Klipgats Pan near Copperton, Northern Cape Province	14/12/16/3/3/2/489	In process
Proposed PV4 energy plants o Farm Klipgats Pan near Copperton, Northern Cape Province	14/12/16/3/3/2/488	In process
Proposed PV3 energy plants o Farm Klipgats Pan near Copperton, Northern Cape Province	14/12/16/3/3/2/487	In process
Proposed PV2 energy plants o Farm Klipgats Pan near Copperton, Northern Cape Province	14/12/16/3/3/2/486	In process
100MW Photovoltaic (PV) Facility on portion 4 of the farm No 117, farm Klipgats Pan, Copperton, Northern Cape Province	12/12/20/2501	Approved
Proposed establishment of a PV Solar facility (Plamtsjambok) in Prieska, Siyathemba Local Municipality, Northern Cape Province	12/12/20/2320/3	In process
Construction of a Solar Photovoltaic Facility near Prieska, within the Siyathemba Local Municipality in the Northern Cape Province	12/12/20/2320	Approved
Construction of a 75MW Solar Photovoltaic Facility on the western portion of the Platsjambok Farm (Platsjambok West) near Prieska, within the Siyathemba Local Municipality in the Northern Cape Province	12/12/20/2320/5	Approved
Proposed RE Capital 14 (Pty) Ltd development within! Kai Garib LM	14/12/16/3/3/2/708	In process
Proposed PV11 PV solar energy plant on farm Hoekplaas, near Copperton, Northern Cape Province	14/12/16/3/3/2/502	In process

Name	DFFE registration	Status
Proposed PV10 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/501	In process
Proposed PV9 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/500	In process
Proposed PV8 energy plants on Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/499	In process
Proposed PV7 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/498	In process
Proposed PV6 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/497	In process
Proposed PV5 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/496	In process
Proposed PV4 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/495	In process
Proposed PV3 energy plants o Farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/494	In process
Proposed PV2 energy plants on farm Hoekplaas near Copperton, Northern Cape Province	14/12/16/3/3/2/493	In process
Mulilo Sonnedix Prieska PV	12/12/20/2503	Approved
75MW Hermanus PV3 solar energy facility and its associated infrastructureon the farm Hermansrus No 147 in the Northern Cape Province	14/12/16/3/3/2/888	In process
75MW Hermanus PV4 solar energy facility and its associated infrastructureon the farm Hermansrus No 147 in the Northern Cape Province	14/12/16/3/3/2/887	In process
Humansrus Solar PV Energy Facility (Pty) Ltd	14/12/16/3/3/2/707	In process
Proposed Garob Wind Energy fascility project near Copperton in the Northern Cape Province	14/12/16/3/3/2/279	Approved
The Proposed Garob Wind Farm To Kronos Substation, 132kv Power Line, Near Copperton, Within The Siyathemba Local Municipality, Of The Pixley Ka Seme District Municipality In The Northern Cape Province	14/12/16/3/3/1/769	Approved
Proposed Bosjesmansberg solar energy facility site near Copperton, Siyathemba Local Municipality, Northern Cape Province	14/12/16/3/3/2/579/3	Approved
Proposed Moiblox soar project within Pixley Ka Seme District Municipality, Northern Cape Province	14/12/16/3/3/2/547	In process
Proposed wind energy facility near Copperton, Northern Cape Province	12/12/20/2099	Approved
Proposed PV energy plant on farm Struisbult near Copperton, Northern Cape Province	12/12/20/2502	Approved

Name	DFFE registration	Status
Proposed construction of a photovoltaic power generation facility, Prieska, Northern Cape Province	12/12/20/1722	Approved
Proposed Badudex solar project withing Pixley Ka Seme District municipality, Northern Cape Province	14/12/16/3/3/2/546	In process
The proposed Mulilo photovoltaic solar energy plant Copperton Mine in the Northern Cape Province	14/12/16/3/3/1/454	Approved
Proposed renewable energy farm on portion 5 of farm Doonies Pan No. 106, Prieska within Siyathemba Local Municipality, Northern Cape Province	14/12/16/3/3/2/609	In process

Our opinion is that the cumulative impact on cultural heritage resources, as originally assessed, will not change and is the same as assessed in 2011.

The management measures as included in the HIA (2011) remains true and needs to be implemented and is listed below.

- Known sites should be clearly marked in order that they can be avoided during construction activities.
- The contractors and workers should be notified that archaeological sites might be exposed during the construction activities.
- Should any heritage artefacts be exposed during excavation, work on the area where the artefacts were discovered, shall cease immediately and the Environmental Control Officer shall be notified as soon as possible.
- All discoveries shall be reported immediately to a heritage practitioner so that an investigation and evaluation of the finds can be made. Acting upon advice from these specialists, the Environmental Control Officer will advise the necessary actions to be taken;
- Under no circumstances shall any artefacts be removed, destroyed or interfered with by anyone on the site; and
- Contractors and workers shall be advised of the penalties associated with the unlawful removal of cultural, historical, archaeological, or palaeontological artefacts, as set out in the National Heritage Resources Act (Act No. 25 of 1999), Section 51. (1).

To achieve this, the following should be in place:

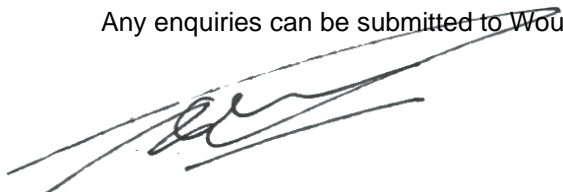
- A person or entity, e.g. the Environmental Control Officer, should be tasked to take responsibility for the heritage sites and should be held accountable for any damage.

- Known sites should be located and isolated, e.g. by fencing them off. All construction workers should be informed that these are no-go areas, unless accompanied by the individual or persons representing the Environmental Control Officer as identified above.
- In areas where the vegetation is threatening the heritage sites, e.g. growing trees pushing walls over, it should be removed, but only after permission for the methods proposed has been granted by SAHRA. A heritage official should be part of the team executing these measures.

8. CONCLUSION

It is our considered opinion that the extension of the EA for the authorised Mierdam will not have any additional impacts on the heritage resources inventory identified for the project as part of the original heritage study (van Schalkwyk, 2011). We conclude that this proposed extension of the EA can proceed from a heritage perspective.

Any enquiries can be submitted to Wouter Fourie at wouter@pgsheritage.com.



Wouter Fourie

Accredited Professional Heritage Practitioner (APHP), Accredited Professional Archaeologist (ASAPA)

Director – PGS Heritage

APPENDICES

Appendix 1: Specialists declaration of Interest (signed by a Commissioner of Oaths)

Appendix 2: Specialist CVs

Appendix 1: Specialists declaration of Interest (signed by a Commissioner of Oaths) – *DoI provided via email by SIVEST*

Appendix 2: Specialist CVs



WOUTER FOURIE

Professional Heritage Practitioner

PROFILE

I am involved in heritage resources management for the past 20 years acting as a specialist consultant on various high-profile projects involving heritage and archaeology. I aim to develop tailor-made heritage solutions to the mining, water and oil and gas industries. I have worked in various African countries, including South Africa, Lesotho, Mozambique, Mauritius, Malawi and the DRC.

I thrive on developing and implementing heritage projects in new territories and with these securing local partnerships that enable skill development for local graduates.

CONTACT

PHONE NUMBER:
+27 82 851 3575
+258 84 774 6768

WEBSITE:
www.pgsheritage.com

EMAIL ADDRESS:
wouter@pgsheritage.com



EDUCATION

University of Pretoria

1993-1996

BA Degree - Majors in Archaeology, Anthropology and Geography

University of Pretoria

1997

BA Hon Archaeology, with further specialisation in environmental management.

University of Cape Town

2016 - present

MPhil Conservation of the Built Environment

WORK EXPERIENCE

PGS Heritage Group of Companies - Director - Heritage Specialist

2003- present

I am actively involved in the management of the business and focus on marketing and new business for PGS, specifically the broader SADC region. Acting as heritage specialist in multidisciplinary teams

The University of the Witwatersrand - Project Manager - Archaeological Contracts Unit

2007-2008

Responsible for conducting heritage and archaeological impact studies, archaeological excavations and general management of the unit

Matakoma Consultants - Director - Heritage Specialist

2000 - 2008

Heritage specialist and Director responsible for heritage and archaeological impact studies

Randfontein Estate Gold Mine - Environmental Coordinator

Oct 1998- Feb 2000

Coordinating all environmental Rehabilitation work

Department of Minerals and Energy Environmental Officer

Oct 1997 - Sept 1998

PROFESSIONAL AFFILIATION

Accredited Professional Heritage Practitioner

Association of Professional Heritage Practitioners
Since 2014

Accredited Professional Archaeologist

Association of Southern African Professional Archaeologists -
Since 2001