# 1 INTRODUCTION

## 1.1 OVERVIEW

*Solaire Direct Southern Africa (Pty) Ltd*, hereafter referred to as Solaire Direct, appointed *Environmental Resources Management Southern Africa (Pty) Ltd*, hereafter referred to as ERM, as independent environmental consultants to undertake the Environmental Impact Assessment (EIA) process for the proposed Graspan Photovoltaic (PV) Power Facility.

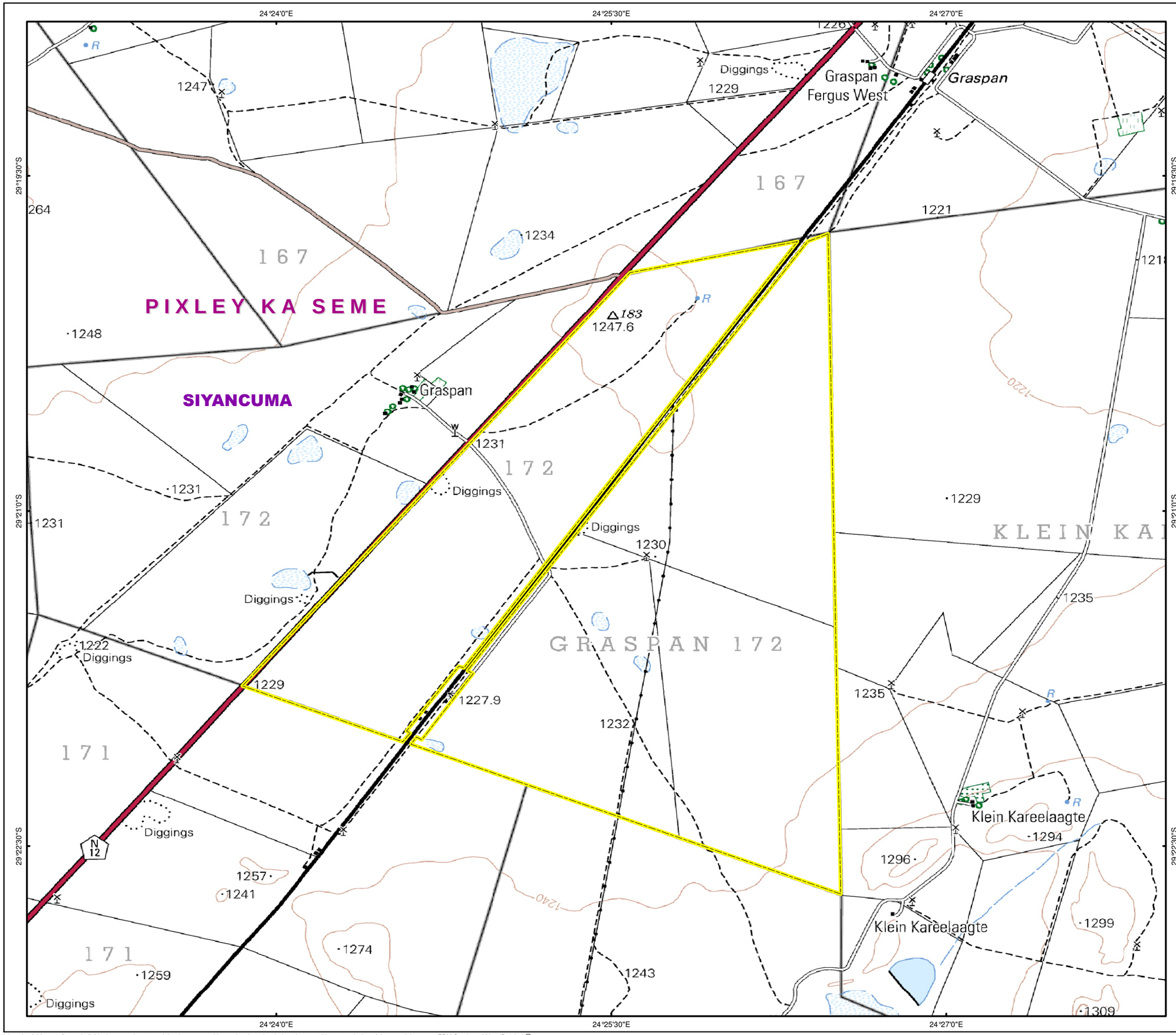
The site is located on the remaining extent of Farm Graspan (No. 172), situated in the Siyancuma Local Municipality in the Northern Cape Province (see *Figure 1.1)*. The site is located approximately 40km north east of Hopetown and is accessible from the N12 (tarred road). The proposed development includes the installation and operation of solar panels (PV arrays) with a projected output of up to 90 megawatts (MW) to be constructed in phases over time. It is intended that the electricity generated by the proposed facility will feed into the national electrical grid network.

The proposed PV power facility will consist of the following key components:

- PV solar panels/modules (arranged in arrays);
- PV module mountings;
- DC-AC current inverters and transformers;
- New grid connection substation;
- Underground cabling/ overhead power lines;
- On-site buildings (including an operational control centre, office, ablutions and a guard house);
- Access roads and internal road network; and
- Ancillary infrastructure.

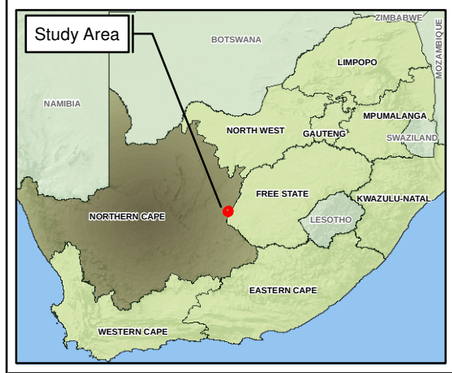
Addition infrastructure will be required such as a temporary construction camp and a permanent meteorological building.

This Draft Environmental Impact Report (EIR) has been compiled as part of the EIA process in accordance with regulatory requirements stipulated in the EIA Regulations (Government Notices R543, R544 and R546 of 18 June 2010) promulgated in terms of Section 24(5) of the National Environmental Management Act (NEMA) (Act No. 107 of 1998), as amended.




## Legend

- Graspan Photovoltaic (PV) Power Facility
- Windpump
- Contours
- Rivers
- Cadastral Farms
- Power Line
- Main Roads
- Secondary Roads
- Other Roads
- Track and Hiking Trail
- Railway
- Water Bodies
- Non-Perrenial Water




SCALE:

0 500 1000 1500

Metres

N

TITLE:

Figure 1.1: Locality Map

CLIENT:

solairedirect
Southern Africa
The solar MWh company

| DATE: July 2012 | CHECKED: DA | PROJECT: 0156408 |
|---|---|---|
| DRAWN: AB | APPROVED: SHC | SCALE: 1 : 30 000 |

DRAWING: Graspan EIR Locality Map.mxd

REV: 0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Projection: Geographic: WGS84
Source: Chief Directorate National Geo-Spatial Information - 2924AD_2005_ED3_GEO.TIF
Inset Map: Esri Data & Maps

SIZE: A3

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## 1.2 *PURPOSE OF THE REPORT*

The information contained in the EIR along with comments and inputs received from stakeholders and commenting authorities will assist the competent authority, the National Department of Environmental Affairs (DEA), in deciding whether or not to grant environmental authorisation for the proposed development, and to inform the conditions associated with such authorisation.

Fundamental to an environmental assessment is the identification, prediction and evaluation of the actual and potential environmental consequences of an activity and the options for mitigation of negative impacts and enhancement of positive impacts (DEAT, 2003). It is often possible to introduce measures to avoid, mitigate or compensate for many of the negative environmental impacts of a particular development, provided that these potential impacts are identified early in the planning process. At the same time, it is important to also look at opportunities for enhancement of positive impacts or benefits.

The objectives of this document are to:

- Communicate the results of the EIA process for the proposed development and alternatives considered;
- Ensure that the impacts identified during the EIA process are adequately addressed;
- Show the Applicant's response to the environmental concerns raised, and efforts taken by the Applicant towards mitigating/ enhancing the impacts/ benefits;
- Provide a record of comments and responses received from Interested and Affected Parties (I&APs) during the process; and
- Facilitate an informed, transparent and accountable decision-making process by the relevant authorities.

## 1.3 *THE PROJECT APPLICANT*

*Solaire Direct Southern Africa (Pty) Ltd* is a subsidiary of the Solaire Direct Group, the largest privately owned solar power developer in France. Solaire Direct Southern Africa operates as an independent power producer (IPP) in Southern African Development Community (SADC) countries.

Founded in France in 2006, the Solaire Direct Group has successfully developed, financed and completed 14 solar projects with a total installed capacity of 120 MW. The Solaire Direct Group has power generation subsidiaries around the globe including Southern Africa, Northern Africa, India and South America. Furthermore, Solaire Direct has a PV module manufacturing subsidiary, Solaire Direct Technologies, located in South Africa.

## *1.4 DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER*

### *1.4.1 ERM Southern Africa*

ERM was appointed by Solaire Direct to undertake the EIA for the proposed 90 MW PV power facility in question. ERM and specialists appointed by ERM during the course of this EIA have no financial ties to, nor are they a subsidiary, legally or financially, of Solaire Direct. Remuneration for the services by the Applicant (Solaire Direct) in relation to this EIA is not linked to approval by any decision-making authority and ERM has no secondary or downstream interest in the development.

ERM is a global environmental consulting organisation employing over 4,000 people with 140 offices in 40 countries worldwide. Founded in 1971, ERM has built an organisation based on the supply of a full range of environmental and social policy, scientific, technical, and regulatory expertise. ERM's primary focus is to provide quality work and service to our clients in these areas.

From a regional perspective ERM has been involved in numerous projects in Africa over the past 30 years and in 2003 established a permanent presence in Southern Africa to meet the growing needs of our clients. The Southern African ERM offices are based in Cape Town, Johannesburg, Pretoria and Durban. ERM Southern Africa has a staff complement of 180 comprising dedicated environmental professionals offering expert skills in EIA, EMP, EMS, risk assessment, EHS management and auditing, corporate social responsibility and socio-economic impact assessment, climate change services, specialist groundwater services as well as contaminated site management. ERM Southern Africa has recently undertaken a number of EIAs for PV power facilities locally, specifically in the Northern Cape, Western Cape and Free State provinces.

### *1.4.2 Project Team*

The project team includes ERM consultants, support staff and external specialists. Details of the external specialists that form part of the team are provided in Section 3.3. Details of ERM's core project team are provided below.

*Table 1.1 ERM Core Project Team*

| | |
|---|---|
| **Partner in Charge** | **Stuart Heather-Clark** BSc Civil Eng (Hons) & MPhil Environmental and Geographical Science University of Cape Town, Registered EAPSA Practitioner, IAIA. |
| **Principal Project Manager** | **Tania Swanepoel** BSc Hons (Engineering & Environmental Geology) University of Pretoria &BSc Hons (Geology and Geohydrology), University of the Western Cape, IAIA, Pr Sci Nat. |
| **Project Manager** | **Dean Alborough** Bsc Hons (Zoology and Environmental Science) & MSc Environmental Science, University of Cape Town. |

The Partner in Charge, Stuart Heather-Clark, is a certified environmental assessment practitioner and the project has been conducted in terms of the code of ethics promulgated by the Certification Board for Environmental Assessment Practitioners of South Africa (EAPSA), which includes a requirement for independence. Stuart has overall responsibility for the team and delivery of the EIA study. Stuart has more than 15 years experience in the field of Impact Assessment in South Africa, and is the Practice Leader for the Impact Assessment and Planning Team in ERM Southern Africa.

The Principal Project Manager, Tania Swanepoel, has over 13 years of broad-based environmental and consulting experience in South Africa and has worked on a variety of EIA projects including renewable energy facilities, infrastructure developments and oil and gas projects.

The Project Manager, Dean Alborough, has more than four years of relevant experience in Integrated Environmental Management, and more than six years in environmental science. Dean's experience includes larger environmental and social impact assessments (ESIAs), management plans, public participation, environmental site investigations, monitoring, auditing and risk assessments. Dean has been involved in a number of EIAs in the renewables (wind and solar) and in the oil and gas sectors.

## 1.5 REPORT STRUCTURE

The structure of this Draft EIR is as follows:

*Table 1.2 Report Structure*

| Section | Contents |
|---|---|
| Chapter 1<br>Introduction | Contains a brief description of the proposed activity and an outline of the report structure. |
| Chapter 2<br>Regulatory Framework | Outlines the legislative, policy and administrative requirements applicable to the proposed development. |
| Chapter 3<br>Approach and Methodology | Outlines the approach to the EIA study and summarises the process undertaken for the project to date. |
| Chapter 4<br>Project Description | Includes a detailed description of the proposed project activities and the alternatives. |
| Chapter 5<br>Biophysical Baseline | Describes the receiving biophysical baseline environment. |
| Chapter 6<br>Socio-economic Baseline | Describes the receiving socio-economic baseline environment. |
| Chapter 7<br>Soils, Hydrology and Hydrogeology Impacts | Describes and assesses the potential impacts of the proposed development on soils, surface and groundwater. Mitigation measures are also recommended. |
| Chapter 8<br>Agricultural Impacts | Describes and assesses the potential impacts of the proposed development on the agricultural potential of the proposed site. |
| Chapter 9<br>Flora and Fauna Impacts | Describes and assesses the potential impacts of the proposed development on flora and fauna. Mitigation measures are also recommended. |
| Chapter 10<br>Visual Impacts | Describes and assesses the potential visual impacts of the proposed development and describes relevant mitigation measures. |
| Chapter 11<br>Palaeontology, Archaeology and Cultural Heritage Impacts | Describes and assesses the potential impacts of the proposed development on palaeontology, archaeology and cultural heritage aspects and describes relevant mitigation measures. |
| Chapter 12<br>Socio-economic Impacts | Describes and assesses the potential socio-economic impacts of the proposed development and describes relevant mitigation measures. |
| Chapter 13<br>Other Impacts | Describes and assesses other potential impacts of the proposed development and describes relevant mitigation measures. |
| Chapter 14<br>Cumulative Effects | Qualitatively assesses potential cumulative effects. |
| Chapter 15<br>Decommissioning | Indicates that decommissioning impacts would be similar to construction impacts. |
| Chapter 16<br>Conclusions and Recommendations | Summarises the key findings of the EIA and provides recommendations for the mitigation of potential impacts and the management of the proposed project. |
| Chapter 17<br>References | Contains a list of references used in compiling the report. |

In addition, the report includes the following annexures:

*Annex A:* Legislative Framework
*Annex B:* Photographs
*Annex C:* Public Participation Documentation
*Annex D:* Comments and Responses Report (will be included in the Final EIR)
*Annex E:* DEA Acceptance of Scoping
*Annex F:* Ecological and Biodiversity Specialist Report
*Annex G:* Paleontological, Archaeological and Cultural Heritage Specialist Report
*Annex H* Visual Specialist Report
*Annex I* Agricultural Specialist Report
*Annex J* Social Specialist Declaration of Independence
*Annex K:* Framework Environmental Management Programme

## *1.6 OPPORTUNITY TO COMMENT ON THE DRAFT ENVIRONMENTAL IMPACT REPORT*

Interested and Affected Parties (I&APs) and authorities have been provided with an opportunity to comment on any aspect of the proposed activity and the Draft EIR. A hardcopy of the Draft EIR has been made available at the Hopetown and Kimberley Public Libraries and electronically at http://www.erm.com/SolaireDirect/Graspan.

A notification letter has been sent to all registered and identified I&APs to inform them of the release of the Draft EIR and where the report could be reviewed.

I&APs were requested to forward comments to ERM at the address, tel. /fax numbers or e-mail address shown below. The deadline by which comments are to reach ERM is 30 November 2012.

Attention: Tougheeda Aspeling
Solaire Direct Graspan PV Power Facility
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