

SKUITDRIFT 2 SOLAR PV FACILITY, NORTHERN CAPE PROVINCE

Site Verification and Motivation for Amendment of the
Environmental Authorisation

DFFE Ref.: 12/12/20/2600

July 2023

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PROJECT DETAILS

Title	:	Skuitdrift 2 Solar PV Energy Facility on a Portion of the Farm Skuitdrif 426, within the Siyanda District Municipality in Northern Cape Province
DFFE Reference	:	12/12/20/2600
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Client	:	Khoi-Sun Development (Pty) Ltd
Report Status	:	Draft Amendment Motivation Report for authority and public review and comment

When used as a reference this report should be cited as: Savannah Environmental (2023) Motivation Report for the Amendment to the Environmental Authorisation for the Skuitdrift 2 Solar PV Energy Facility on a Portion of the Farm Skuitdrif 426, within the ZF Mgcawu District Municipality in Northern Cape Province.

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PURPOSE OF THE REPORT

Khoi-Sun Development (Pty) Ltd has requested an amendment to an existing Environmental Authorisation (EA) for the authorised Skuitdrift 2 Solar PV Energy Facility and associated infrastructure (DFFE Reference: 12/12/20/2600, EA issued on the 26 June 2013). The project is located on a Portion of the Farm 426 Skuitdrif, located directly south of the Orange River and west of the Au-grabies National Park within the Kai!Garib Local Municipality, Northern Cape Province. The amendment being applied for relates to an extension of the validity of the EA by an additional 10 years as well as other administrative amendments.

An application for amendment has been submitted to the Department of Forestry, Fisheries and the Environment (DFFE), who have confirmed that the application falls within the ambit of a Part 1 amendment as defined in Regulation 29 of the EIA Regulations, 2014 (as amended). Additional information has been requested (in terms of Regulation 30(1)(a) of the EIA Regulations, 2014 as amended) for the Department to be able to process the application for amendment. Savannah Environmental, as independent consultant, has prepared this Site Verification and Motivation Report in support of the application for the proposed amendment on behalf of Khoi-Sun Development (Pty) Ltd.

This report aims to provide details pertaining to the environmental impacts as a result of the requested amendment in order for interested and affected parties to be informed and submit comments for the competent authority to be able to reach a decision in this regard. This report is supported by specialist site verification and motivation reports to inform the conclusion and recommendations regarding the proposed amendment (refer to **Appendix A** and **G** of this report). This Site Verification and Motivation Report must be read together with these specialist reports to obtain a complete understanding of the proposed amendments and the implications thereof from an environmental perspective.

This Motivation Report has been made available for a 30-day review and comment period in accordance with Regulation 32(1) (aa) of the EIA Regulations, 2014 (as amended) from **Friday 07 July 2023 to Monday 07 August 2023**. The availability of the Motivation Report for the 30-day comment and review period was communicated via email and/or mail to all registered I&AP's and advertised in the **Die Plattelander Newspaper** on **Friday, 7 July 2023**.

The Motivation Report is available for download from Savannah Environmental's website: <https://www.savannahsa.com/public-documents/energy-generation/>. To register on the project database as an interested and affected party, as well as obtain further information about the project, or submit written comments, please contact:

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All comments received during the 30-day review and comment period will be included within a Comments and Responses Report (C&RR) to be submitted to the DFFE with the Final Amendment Motivation Report for consideration and decision-making.

1. OVERVIEW OF THE PROJECT

1.1. Location

The property on which the project is proposed lies to the south of the Orange River and to the west of the Augrabies National Park. It is positioned approximately 106km northeast of Pofadder and falls within the jurisdiction of the ZF Mgcawu District Municipality and Kai!Garib Local Municipality (refer to **Figure 1.1**). The project itself is situated on a portion of Farm 426 Skuitdrift. Access to the site is off the N14 National Road (Nous turn-off 60km east of Pofadder; 70km west of Kakamas) via a 46km long gravel track.

The Skuitdrift Farm covers an area of approximately 9800 hectares. The proposed Skuitdrift 2 Solar PV Energy Facility with a capacity of up to 75MW will have a development footprint of approximately 250 hectares.

The authorised Skuitdrift 2 Solar PV Energy Facility will consist of solar photovoltaic panels with a feed-in capacity of 75MW (megawatts) Alternating Current (AC) / >90MW Direct Current (DC)), as well as associated infrastructure, which will include:

- » On-site substation
- » Auxiliary buildings (administration / security, workshop, storage and ablution)
- » Inverters, transformers and internal electrical reticulation (underground cabling);
- » Access road and internal road network;
- » Overhead electrical transmission line (to connect to existing Aggeneis Substation);
- » Rainwater tanks
- » Parameter fencing

1.2. Status (baseline) of the Environment assessed through the Environmental Impact Assessment (EIA) Process (EIA report, December 2010)

The specialist studies undertaken during the EIA in 2013 assessed both the benefits and potential negative impacts anticipated as a result of the proposed Skuitdrift 2 Solar PV Energy Facility development and concluded that there are no environmental fatal flaws that should prevent the proposed project from proceeding.

Table 1.1 summarises the baseline status of the environment that was assessed through the EIA process in 2013 for the authorised Skuitdrift 2 Solar PV Energy Facility.

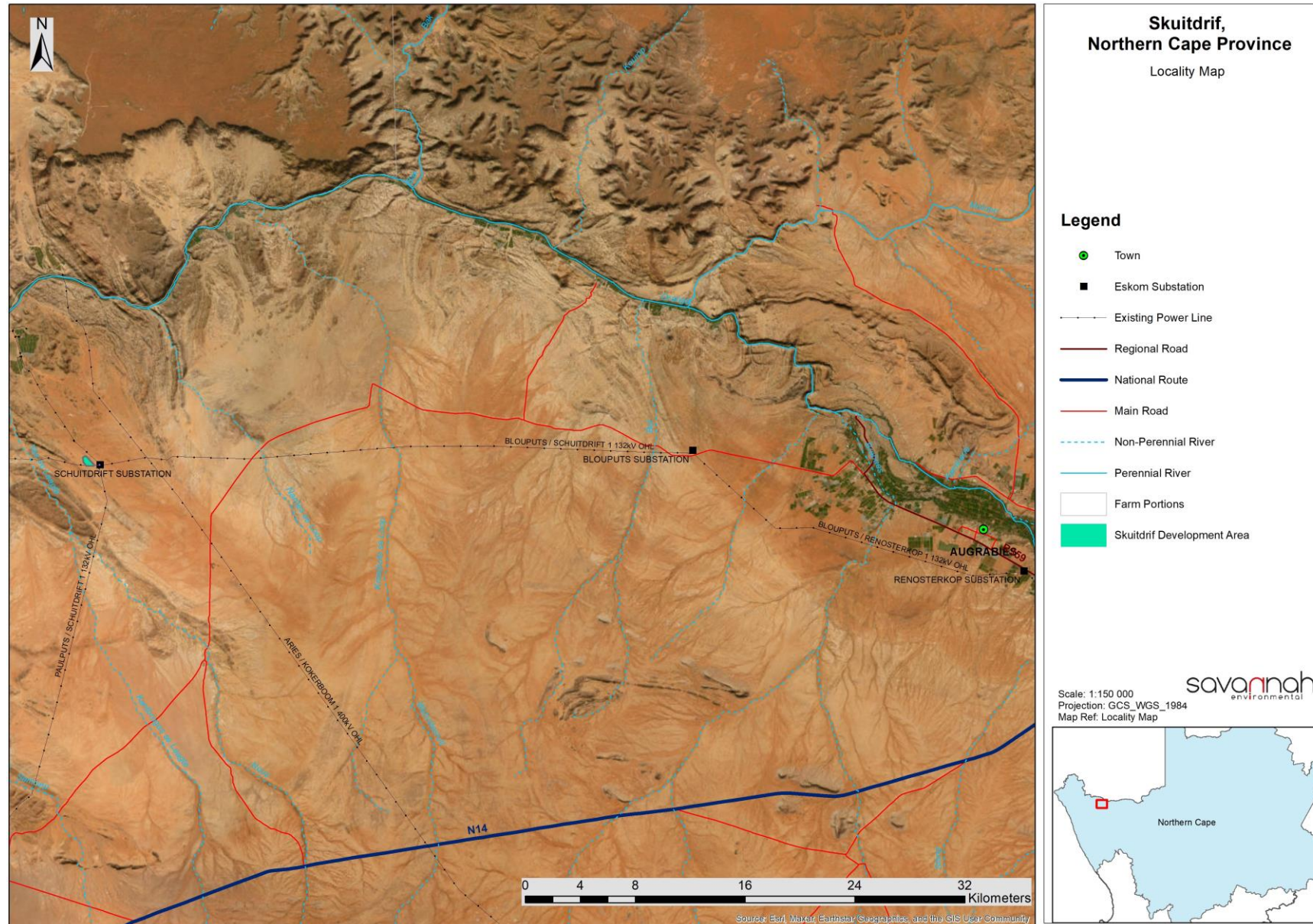


Figure 1.1: Locality map showing the location of the Skuitdrif 2 Solar PV Energy Facility and associated Grid Connection.

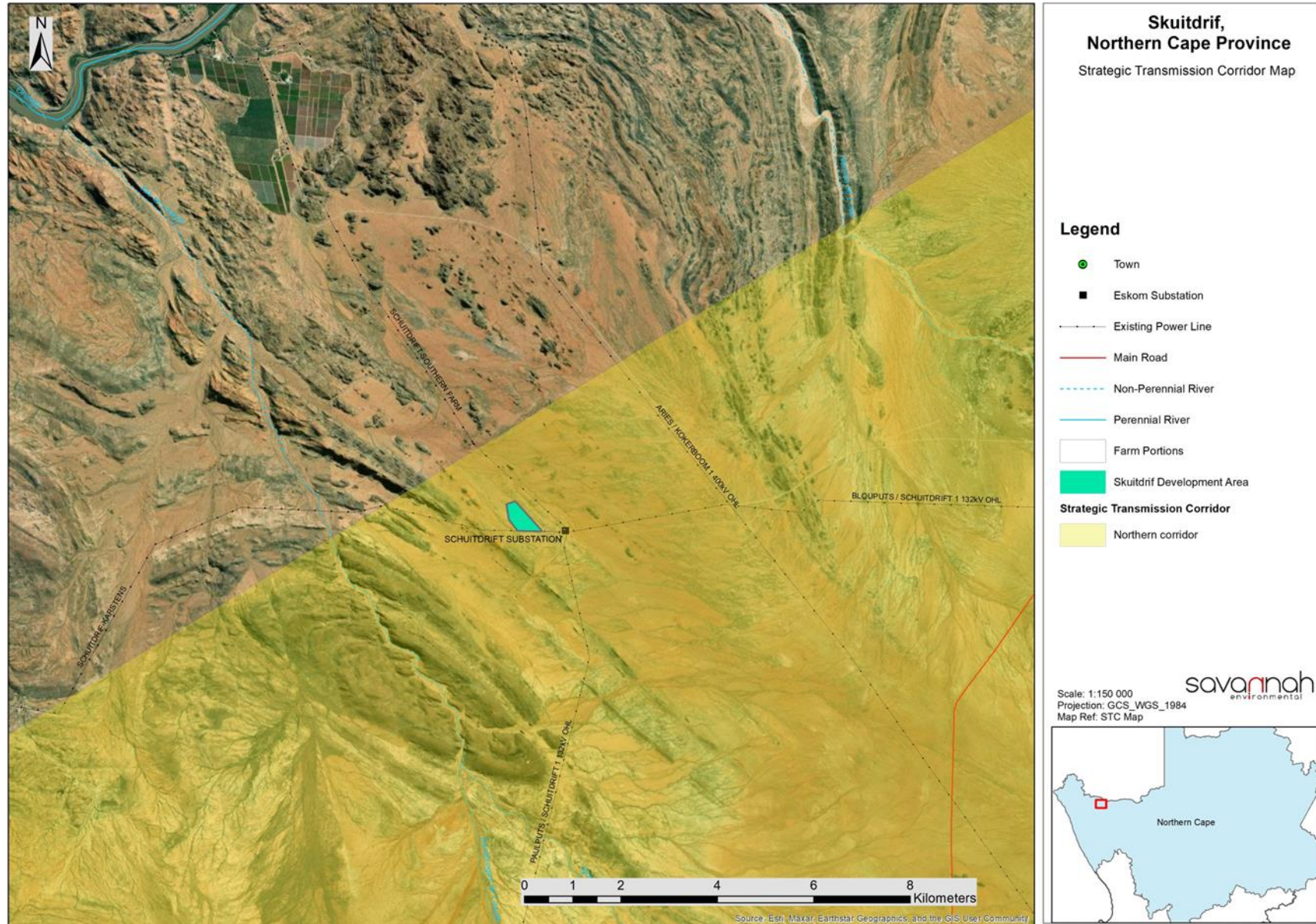


Figure 1.2: Locality map showing the location of the Skuitdrif 2 Solar PV Energy Facility within the Strategic Transmission Corridor (Northern Corridor).

Table 1.1: Baseline status of the environment assessed through the EIA process.

<p>Topography & Geology</p>	<p>The proposed development site is located in a plain with a uniform and flat topography. The area has a gentle slope.</p> <p>The development site is primarily composed of granite and sand, which are the predominant rock types in the area. It is located within the Natal Namaqua metamorphic province, known for its granites and ancient sedimentary deposits.</p>
<p>Climate</p>	<p>The proposed development site is located in an area with an unfavourable climate for intensive agriculture. The region is characterized by low rainfall and extreme temperatures, which pose challenges for agricultural activities.</p>
<p>Land use type</p>	<p>Agricultural.</p> <p>The development site is currently being used for limited grazing.</p>
<p>Vegetation</p>	<p>According to the national vegetation map (Mucina & Rutherford 2006), the site lies within the Blouputs Karroid Thornveld vegetation type. Blouputs Karroid Thornveld occurs as a belt of irregular flat areas from the vicinity of Augrabies Falls in the east to <i>Kotie se Laagte</i> and <i>Samoep se Laagte</i> in the west. The vegetation type is listed as Least Threatened and less than 1% has been transformed. It is well conserved (27%) within Augrabies Falls National Park. At 607 km² it is however the smallest mapped vegetation unit within the Nama Karoo Biome. The development site is located in proximity to one such formally protected areas namely the Augrabies National Park, located approximately 20km to the east. Refer to Figure 1.3.</p> <p>Other vegetation types which occur in the vicinity of the site include Lower Gariep Broken Veld, Bushmanland Arid Grassland and along the banks of the Orange River, Lower Gariep Alluvial Vegetation. Lower Gariep Broken Veld and Bushmanland Arid Grassland are also classified as Least Threatened and have been little impacted by transformation.</p> <p>There were also a relatively large number of protected plant species at the site, including <i>Acacia erioloba</i>, <i>Aloe dichotoma</i> and <i>Hoodia gordonii</i>.</p>
<p>Fauna and Avifauna</p>	<p>Mammals</p> <p>The proposed development site is situated within the distribution range of 46 terrestrial mammal species, indicating potential high mammalian diversity. Listed species in the area include the Brown Hyena, Black-footed cat, and Leopard, with the latter two being classified as Near Threatened and Vulnerable, respectively. However, due to agricultural activities, the abundance of Leopards and Brown Hyenas is expected to be low. The habitat is suitable for the Black-footed Cat, but its presence is not significantly threatened by the development. Rocky outcrops and drainage lines are important habitats, harboring various mammal species, while open plains are likely dominated by species adapted to sandy ground. The presence of fences restricting the movement of medium to larger sized mammals is a concern, and specific mitigation measures may be needed to address this issue.</p> <p>Reptiles</p> <p>The site lies in or near the distribution range of at least 45 reptile species indicating that the reptile diversity at the site is likely to be quite high. Given the variety of habitats available at the site which range from sandy plains and dunes to rocky plains and outcrops to drainage lines, a large proportion of these reptiles are likely to occur at the site. Based on distribution maps and habitat requirements, the composition of the reptile fauna is likely to comprise 1 tortoise, 17 snakes, 18 lizards and skinks, one chameleon and 8 geckos. No listed reptile species are known from the area.</p> <p>Amphibians</p> <p>The site lies within the distribution range of six amphibian species. However, given the paucity of</p>

	<p>surface water at the site, only those species able to persist away from perennial water are likely to occur at the site.</p> <p>Avifauna The Skuitdrift site has 130 bird species, but the list may not be comprehensive, with Ludwig's Bustard and Sclater's Lark being the only listed species; the planned transmission lines may have a low impact on them. Other common bird species include Sociable Weaver, Dusky Sunbird, Capped Wheatear, and Verreaux's Eagle, while potential risks include habitat loss and electrocution for species like the Martial Eagle and Spotted/Cape Eagle-Owl.</p>
<p>Soils and Agricultural</p>	<p>The proposed development site consists mainly of dune sand and rocky outcrops and is not fit for the extensive cultivation of crops and grains. The soil is shallow, generally less than 450mm, on weathering rock.</p> <p>The surface of the area is covered with pebbles and rocky outcrops are plentiful. The geology of the area makes the cultivation of crops very difficult. The proposed site of approximately 250ha can house a maximum of 4 heads of cattle or 16 sheep. The economic value of the site is thus insignificant in terms of its grazing capacity.</p>
<p>Aquatics</p>	<p>Drainage systems were identified and delineated by Digby Wells (2018), with the ecological sensitivity of these systems determined to be low to moderate. These drainage lines and washes are a characteristic feature of arid and semi-arid environments and are related to the occurrence of occasional intense rainfall events within areas of low total rainfall.</p>
<p>Heritage</p>	<p>No buildings older than 60 years and heritage significance were identified within the solar development site.</p> <p>The grave sites found directly north of the solar development site are not considered to be of cultural significance and furthermore will not be affected by the proposed development.</p> <p>No archaeological occurrences identified to occur with the solar development site (occurrences found outside the site is to be avoided by all activities)</p>
<p>Industry and Economic Stimulus</p>	<p>The Northern Cape region faces economic challenges due to its arid climate, difficult agricultural conditions, lack of water, and limited natural resources. The closure of copper and zinc mines since the early 1990s has resulted in high unemployment rates, leaving a negative impact on the local economy, which is primarily reliant on limited agriculture. However, the region has potential for growth in power generation, thanks to its high solar irradiation levels and strategic location relative to the National Transmission Network. The Gross Domestic Product (GDP) in the municipality for electricity has shown an increase from R7.51 million in 1995 to R20.46 million in 2010, indicating the growth opportunities in this sector. To promote economic development in the region, it is considered crucial to establish a renewable energy project.</p> <p>The presence of renewable energy facilities in local regions brings more than just the initial investment. They also provide a reliable and ongoing source of income for landowners and the municipality, creating direct employment opportunities for local residents. Additionally, these projects generate secondary employment for local businesses by supplying products and services to the project and its employees. In the case of the proposed development, it is expected to have a significant impact on local employment. During the construction phase, around 40-50 people of various qualifications, primarily from the local labour market, will be employed. Once operational, the solar facility will have 6-10 permanent employees, ranging from security staff to administration and artisans. As the field of renewable energy lacks skilled labour, a combination of local and overseas workers will be employed. To ensure successful long-term operations, the project will cross-train local specialists by utilizing the skills of outside labour. The economic impact of the Khoi-Sun</p>

	<p>Development extends beyond employment, as it will also increase economic activity in the region and province through construction and operational expenditures.</p> <p>Power generation is one of the rare growth opportunities for the Northern Cape due to the high solar irradiation levels and its strategic position relative to the National Transmission Network. This setup creates unprecedented growth opportunities for the area and the establishment of a renewable energy project is considered important to diversify and compliment the economic development of the region.</p>
Site access	<p>The access roads to the site will be from Pofadder or Kakamas, along the N14. This is a tarred National Road, and no alterations should be necessary to handle construction traffic and traffic involved in the operation phase. The access road to the Skuitdrift facility from the N14 has been confirmed as two divisional roads, the R359 and DR3256 which falls under the Siyanda District Municipality (now known as ZF MCGAWU District Municipality).</p>
Other planned Projects in the area (during EIA Phase)	<p>The EIA process in 2012 looked at already existing infrastructure within the vicinity of the proposed development and the following were considered.</p> <ul style="list-style-type: none">» 10MW Skuitdrift Solar Project facility to the northeast of the proposed development.» 2X 20MW facilities on the to the east proposed development.

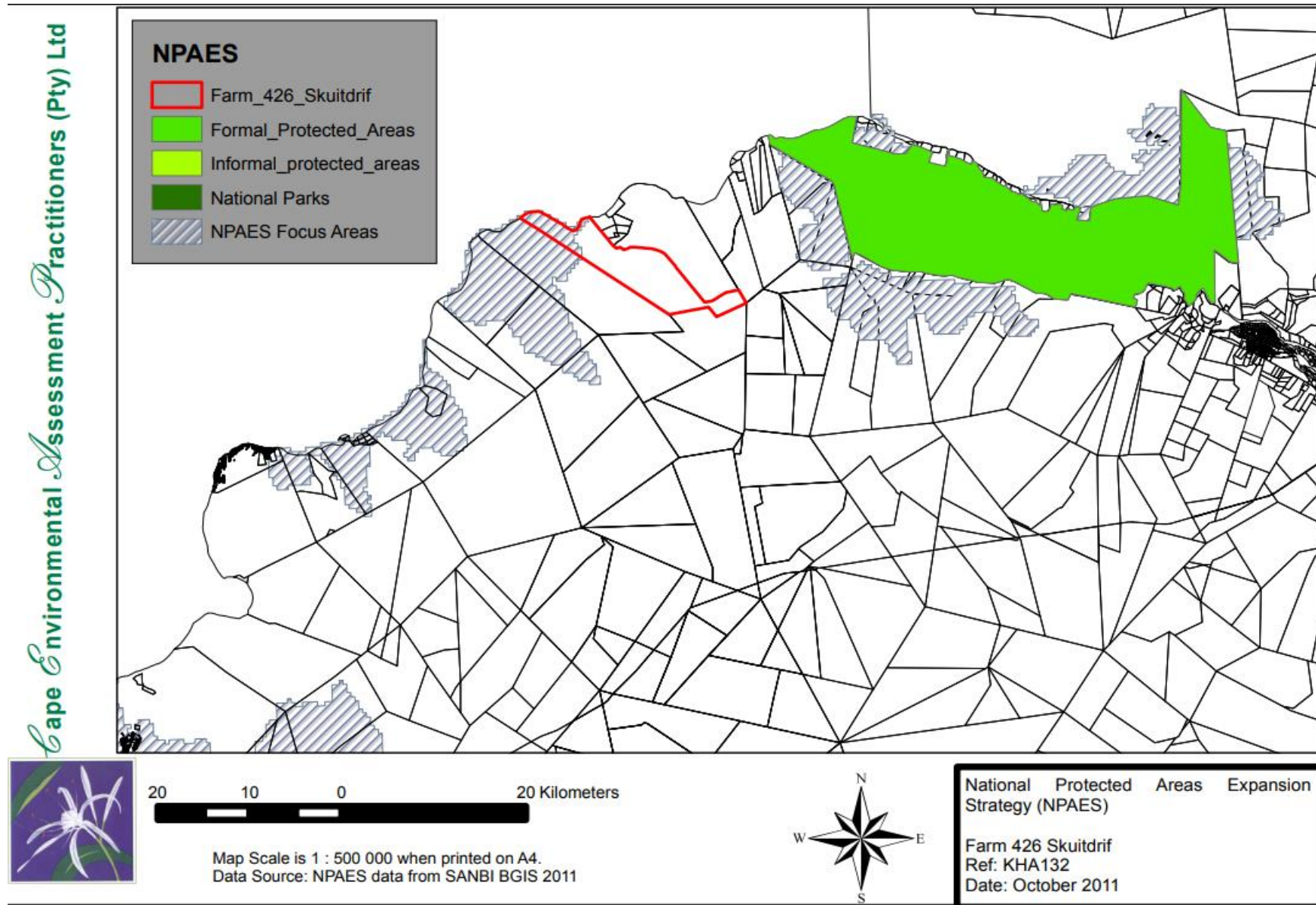


Figure 1.3: Locality Map showing Skuitdrift 2 Solar PV Energy Facility to the National Protected Areas Expansion Strategy focus area (Source: Cape Environmental Assessment Practitioner Pty Ltd EIA)

1.3. Potential Environmental Impacts determined through the Environmental Impact Assessment (EIA) Process:

From the specialist investigations undertaken as part of the EIA completed by Cape Environmental Assessment Practitioners in 2013 for the Skuitdrift 2 Solar PV Energy Facility and associated infrastructure (DEA Reference: 12/12/20/2600), the following environmental impacts relevant to the site and to the amendment application were identified and assessed:

- » Ecological (including flora, fauna, freshwater and avifauna)
- » Agricultural Potential
- » Heritage, Archaeology and Palaeontology (including consideration of visual aspects)

According to the EIA (Cape Environmental Assessment Practitioners, 2013), the management and mitigation of the impacts will result in no significant impacts in the surrounding environment. Based on the findings of all the credible specialists who undertook their respective specialist studies (based on the approved terms of references), it was concluded that the overall impact of this development is low. The impacts during the construction and operational phases are summarised below and will occur over a localised extent.

The key conclusions and recommendations of the original EIA pertinent to this application, as reported in the EIA are summarised as follows.

1.3.1. Summary of environmental findings in the Environmental Impact Assessment (2013)

i) Ecological Impacts

A Fauna & Flora impact assessment was undertaken by Simon Todd Consulting (2013) and assessed anticipated fauna and flora impacts.

The majority of impacts can be reduced to a low level through avoiding the sensitive receptors and implementing relatively simple mitigation. There are no highly sensitive ecosystems present within the proposed development area. The washes are more sensitive than the surrounding plains as a result of their associated erosion risk. Cover of the ground layer is generally not significantly higher within the washes and is in fact often lower. As a result, these small washes are not highly significant from an ecological and biodiversity perspective, but should not be impacted as they regulate water movement across the site.

The proposed development area is floristically homogenous and is not locally significant from a faunal perspective as this habitat is widely available in the area. Faunal disturbance during the construction phase is inevitable and cannot be fully mitigated. The impact is however restricted to the construction phase and fauna are likely to return to the area during the operational phase of the project. Given the relatively flat nature of the site and the coarse sandy nature of the substrate, erosion risk is likely to be low and provided that vegetation clearing is kept to a minimum, few measures to combat erosion will need to be implemented. Very few alien species were observed at the site which can be ascribed to the arid nature of the area combined with nutrient-poor soils. As a result, the risk of alien plant invasion should be relatively low. Alien plants are however likely to become an issue if the site is highly disturbed during construction or if water runoff is not properly managed.

ii) Heritage and Archaeological Impacts

An integrated Heritage Impact Assessment was undertaken by Perception Heritage Planning in April 2012 and a summary of the finding is described below.

- » **Built environment** – Existing structures older than 60 years located directly southeast of the site (farmstead and two associated outbuildings) are considered to be of moderate – low cultural significance and is furthermore situated well outside the actual development footprint currently proposed. As such we are of the view that the proposal would not materially impact on these heritage resources.
- » **Cultural landscape** - From a regional and natural landscape perspective, the proposed development site forms part of an isolated wilderness area well outside local tourism routes and areas (including the Orange River corridor). While the proposal would relate to a landscape modification, we do not consider that it would alter any natural or cultural landscape of cultural significance.
- » **Archaeology** – The site consist of a koppies that should be avoided and a 50m buffer is suggested around each koppie. There appear to be no other inhibitors to the solar facility.
- » **Palaeontology** – as there are no palaeontological resources likely to occur in the area, it is recommended that no further palaeontological studies or mitigation be undertaken in respect of the proposed development site.

Chance find procedures and objective mitigation measures to minimise impacts on archaeology, palaeontology and cultural heritage and ensure opportunities to identify and add to new scientific information should be undertaken in line with the EMPr and specialist recommendations.

vi) Agricultural Potential

An Agricultural Potential Assessment was undertaken by Hendri Beukes in March 2012 and a summary of the finding is described below.

The project site is currently utilised for stock farming. The entire farm is under indigenous vegetation that is being used as grazing for some 800 ewes and 80 heads of cattle. Although the area is very dry, there is no need to provide extra feed to the livestock, since there is ample vegetation along the riverbanks. Predators pose a great threat to livestock farming in the area, since jackals, leopards and caracals wreaks havoc among the sheep.

The property is currently being used for limited grazing. The development of the proposed solar facility will not have a significant impact on the agricultural potential of the farm. Less than 250ha of grazing field will be lost, which is very small. The economic benefits that the proposed development holds cannot be recovered from the current or potential agricultural activities.

vii) Cumulative Impacts

Cumulative impacts arise from the combined presence of several similar developments within an area which affect ecological processes operating at broader scales or which each have a small impact which becomes significant when combined. At this point, other known development in the vicinity of the KhoiSun Development site is a proposed 10 MW solar facility (the Scuitdrift Solar Facility) which is adjacent to the substation, but to the northeast of the current site, as well as two other proposed 20 MW facilities on the adjacent property to the east of the current development. However, at this point, these are all proposed

facilities and actual developments already present include the ESKOM substation on the site as well as some intensive agriculture northwest of the site. This suggests that the current levels of development in the area are low and the contribution of the current development to cumulative impacts, while significant at a local level would be low at the landscape level and the potential for the development to contribute towards the disruption of broad-scale ecological processes is low.

2. DESCRIPTION OF REQUESTED AMENDMENT

This section of the Motivation Report details the amendments considered within this report and by the specialist site verification investigations (refer to **Appendix A - G**). The amendment being applied for relates to an extension of the validity of the EA dated 26 June 2013 by an additional ten (10) years as well as other administrative amendments. Motivation for the amendment is included in Section 3 of this report.

2.1. Amendment 1: Extension of the validity of the Environmental Authorisation

The EA Amendment is being completed in terms of Regulation 29(1)(a) of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended, including the additional studies and public participation required by the DFFE.

1. Extension of the validity of the EA

Khoi-Sun Development (Pty) Ltd is proposing to amend the Environmental Authorisation (EA) for the Skuitdrift 2 Solar PV Energy Facility by extending the EA validity by an additional ten (10) years. Extension of the validity of the EA will ensure that the EA remains valid for the undertaking of the authorised activities.

Condition 6 of the First Issue Environmental Authorisation, Issued on 26 June 2013, DEA Reference (12/12/20/2600) states that:

"This activity must commence within a period of three (3) years from the date of issue. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

Consequent amendments to extend the validity of the authorisation have been made as follows:

- » 12/12/2600/AM1 – authorised on the 19 February 2016 extending the validity to 26 June 2018
- » 12/12/2600/AM1 AM2 – authorised on the 29 June 2018 extending the validity to 26 June 2020
- » The most recent 12/12/20/2600/AM3 – 8 June 2020 extending the validity to 26 June 2023 which states the following.

"This activity must commence within a period of ten (10) years from the date of issue of the authorisation (i.e. the authorisation lapses on 26 June 2023). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken."

The applicant, Khoi-Sun Development (Pty) Ltd thus requests that the Competent Authority amends Condition 6 of the original EA (Page 6) as amended (DFFE Reference: 12/12/20/2600/AM3; dated 8 June 2020) as follows:

"This activity must commence within a period of twenty (20) years from the date of issue of the authorisation (i.e. the EA lapses on 26 June 2033). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken".

2. Amend the email address of the EA Holder

The email address of the holder of the environmental authorisation as authorised in EA Amendment 3 (12/12/20/2600/AM3) for the requested consolidated EA (on the relevant pages) needs to be amended to reflect the new email contact details:

From: m.michalowska@buildingenergy.it

To: m.logan@redrocket.energy

3. MOTIVATION FOR THE REQUESTED AMENDMENT

The section below describes the motivation for the requested amendment.

3.1. Extension of the validity of the Environmental Authorisation

The Applicant intends to bid the Skuitdrift 2 Solar PV Energy Facility ("the Project") in upcoming bidding windows of the South African Government's Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) or any other government tenders or private off-taker programmes, where applicable. The extension of the EA validity is requested in order to enable the holder of the EA to (a) bid the project in upcoming rounds of the REIPPPP (the date of which is unknown) or any other government tenders or private off-taker programmes and b) commence with construction following Financial Close (should the project be selected as a preferred bidder) prior to the EA lapsing.

By maintaining the validity of the EA, the applicant can explore the option of tendering in private off-taker or other government programmes should the REIPPPP bid not occur. This will enable the applicant to generate and supply the green electricity produced and reduce reliance on external factors, such as delays in the REIPPPP program. It grants Khoi-Sun Development (Pty) Ltd the opportunity to contribute to sustainability goals independently and showcase their commitment to clean energy.

It should be noted that in 2022 the EMPr for the project was approved. The finalisation of the EMPr entailed a number of tasks, including, for example, site visits and site walk-through surveys with certain specialists and plant search and rescue, all of which required investment and time. All specialists undertook a re-assessment of the potential environmental impacts associated with the project from which the EMPr was approved.

3.2. Amend the email address of the EA Holder

The email address for the Holder of the EA has changed and therefore is requested to be updated in the EA.

4. CONSIDERATIONS IN TERMS OF THE REQUIREMENTS OF THE EIA REGULATIONS AND DFFE

In terms of Conditions 6 of the EA dated 16 July 2013 and Regulation 29 of the EIA Regulations 2014, as amended, it is possible for an applicant to apply, in writing, to the competent authority for an amendment of the environmental authorisation if the amendment will not change the scope of a valid environmental authorisation nor increase the level or nature of the impact. This proposed amendment will not increase the level, nature or significance of impacts which were initially assessed, and the amendment will take place within the authorised development footprint therefore not impacting on any additional stakeholders. An application in this regard has been submitted to the DFFE who have confirmed that the application falls within the ambit of a Part 1 amendment process.

Further to the receipt of the application, the DFFE have requested additional information be provided in the way of a site verification and motivation report, and that a public participation process is required to be undertaken in support of the application.

The results of the review of all specialist studies undertaken in 2012/2013, and a current assessment, including a site verification evaluation providing an indication of the status of the receiving environment (by the relative specialists) is included in **Section 5**.

4.1. Details of Environmental Assessment Practitioner and Expertise to conduct the Amendment Process

In accordance with Regulation 12 of the 2014 EIA Regulations (GNR 326), the applicant, Khoi-Sun Development Pty) Ltd has appointed Savannah Environmental (Pty) Ltd as the independent environmental consultant responsible for managing the Application for Amendment; inclusive of the required independent specialist studies and public participation process.

Neither Savannah Environmental nor any of its specialist sub-consultants are subsidiaries or are affiliated to the applicant. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed facility.

Savannah Environmental is a specialist environmental consulting company providing a holistic environmental management service, including environmental assessment, and planning to ensure compliance and evaluate the risk of development, and the development and implementation of environmental management tools. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team. The Savannah Environmental team for this project includes:

- » **Jo-Anne Thomas**, the principal EAP on this Project, is a registered EAP with the Environmental Assessment Practitioners Association of South Africa (EAPASA - 2019/726). She provides technical input for projects in the environmental management field, specialising in Strategic Environmental Advice, Environmental Impact Assessment studies, environmental auditing and monitoring, environmental permitting, public participation, Environmental Management Plans and Programmes, environmental policy, strategy and guideline formulation, and integrated environmental management. Her key focus is on integration of the specialist environmental studies and findings into larger engineering-based projects, strategic

assessment, and providing practical and achievable environmental management solutions and mitigation measures. Responsibilities for environmental studies include project management (including client and authority liaison and management of specialist teams); review and manipulation of data; identification and assessment of potential negative environmental impacts and benefits; review of specialist studies; and the identification of mitigation measures.

- » **Candy Mahlangu** works as an Environmental Consultant at Savannah Environmental. Candy holds a Bachelor of Arts degree in Environmental Management and is experienced in executing professionally consulting services for various projects in the environmental management field. She specialises in conducting Environmental Impacts Assessments, public participation processes, compiling Environmental Management Programmes, for residential developments, commercial developments, industrial upgrades, bulk services, and renewable energy projects. Her main responsibilities include conducting public participation, overall compilation of the Basic Assessments and EIA report, specialists' engagements, reviewing specialists reports and incorporating specialist studies into the Environmental Impact Assessment reports and the associated Environmental Management Programmes. She has also been widely exposed to the associated project management in her trade and developed skills such as stakeholder engagement which includes but not limited to, site inspections, planning and liaising with clients, environmental specialists, built environment consultants, statutory bodies and competent authorities.

5. POTENTIAL FOR CHANGE IN THE SIGNIFICANCE OF IMPACTS AS ASSESSED IN THE EIA AS A RESULT OF THE REQUESTED AMENDMENT

The DFFE in reference to Regulation 30(1)(a) requires assessment of the impacts related to the proposed amendments. Understanding the nature of the proposed amendments and the impacts associated with the project (as assessed within the EIA), the following has been considered:

- » Terrestrial Ecology (Fauna and Flora)
- » Aquatic Ecology
- » Avifauna
- » Soils and Agricultural Potential
- » Visual impacts
- » Impacts on heritage, and archaeological resources
- » Social impacts

The potential for change in the significance and/or nature of impacts based on the proposed amendment as described within the site verifications undertaken by the various specialists and this Motivation Report is discussed below and detailed in the specialist's assessment reports (conducted in 2023) contained in **Appendix A - G**¹. This section of the Motivation Report must be read together with the specialist reports contained in **Appendix A - G** in order for the reader to obtain a complete understanding of the proposed amendments and the implications thereof.

5.1. Current State of the Environment

Table 5.1 summarises the current status of the project environment.

Table 5.1: Current status of the environment

Topography & Geology	The topography and geology of the site remains unchanged as assessed in the EIA process.
Climate	The proposed development site is located in an area with an unfavourable climate for intensive agriculture. The region is characterized by low rainfall and extreme temperatures, which pose challenges for agricultural activities.
Land use type	The Land use type remains unchanged as assessed in the EIA process.
Vegetation	Dominant species within the main PAOI (Project Area of Influence) were predominantly <i>Stipagrostis</i> species (<i>Stipagrostis ciliata</i> , <i>S. uniplumis</i> , <i>S. anomala</i>). Trees assemblages comprised mostly of <i>Senegalia mellifera</i> and <i>Phaeoptilum spinosum</i> . <i>Boscia foetida</i> and <i>Vachellia erioloba</i> were found in the vicinity of the PAOI but only a single <i>V. erioloba</i> was found within the proposed PAOI. <i>Commiphora gracilifrons</i> was detected on the rocky outcrops in close proximity to the PAOI. Grass species such <i>Tricholaena capensis</i> and <i>Enneapogon scaber</i> were also detected on these rocky outcrops. <i>Rhigozum trichotomum</i> and <i>Sisyndite spartea</i> were particularly common in certain parts of the PAOI. Species of Conservation Concern (SCC) were encountered in very low densities within the PAOI during the reassessment site visit. These included the protected <i>Hoodia gordonii</i> , <i>Aloidendron</i>

¹ It must be noted that the original specialists who undertook the EIA studies and subsequent amendments have been used for these assessments as far as possible. However, where the original specialists were not available for whatever reason, suitably qualified and experienced specialists have been used to provide an assessment of the proposed amendments.

	<p><i>dichotomum</i> and <i>Vachellia erioloba</i>. <i>Boscia foetida</i> was found in close proximity to the PAOI but not within. A permit would be required for any activities involving these protected species.</p> <p>The vegetation on the site remains unchanged as assessed in the EIA process</p>
Fauna and Avifauna	<p>Mammals</p> <p>The project area confirmed the presence of several other mammals including Springbok (<i>Antidorcus marsupialis</i>), Aardvark (<i>Orycteropus afer</i>), Bat-eared fox (<i>Otocyon megalotis</i>), Cape Fox (<i>Vulpes chama</i>), Cape Porcupine (<i>Hystrix africae australis</i>), Steenbok (<i>Raphicerus campestris</i>), Rock Hyrax (<i>Procavia capensis</i>) and several small mammals including Western Rock Elephant Shrew (<i>Elephantulus rupestris</i>), Hairy-footed Gerbil (<i>Gerbillurus paeba</i>), Highveld Gerbil (<i>Gerbilliscus brantsii</i>) and South African Ground Squirrel (<i>Xerus inauris</i>).</p> <p>Reptiles</p> <p>A few reptile species were recorded within the PAOI, including Namaqua Sand Lizards, Western Rock Skink, and a single Cape Cobra. The low number of recorded species could be attributed to cool weather conditions during the survey, the elusive nature of many reptile species in the area, and limited search time.</p> <p>Amphibians</p> <p>No amphibians were recorded during survey which may be attributed to the activity of species distributed in this region being highly seasonal and dependent on rainfall.</p> <p>Avifauna</p> <p>Avifaunal diversity was low within the PAOI, with only six species being confirmed during the site visit. Within and around the general area of the PAOI, 32 species were confirmed, which could be considered high. Only a single potential SCC, the Verreaux's Eagle (Not Assessed), was confirmed during the site visit during an incidental observation outside of the PAOI.</p> <p>The Fauna and Avifauna of site remains unchanged as assessed in the EIA process</p>
Soils and Agricultural	<p>The soils and Agricultural potential of the site remain unchanged as assessed in the EIA process.</p>
Aquatics	<p>Drainage systems were identified and delineated by Digby Wells (2018), with the ecological sensitivity of these systems determined to be low to moderate. These systems be impacted by the solar facility, however suitable mitigation measures have been recorded in the EMPr (Savannah, 2019). These drainage lines and washes are a characteristic feature of arid and semi-arid environments and are related to the occurrence of occasional intense rainfall events within areas of low total rainfall. The site remains unchanged as assessed in the EMPr update.</p>
Heritage	<ul style="list-style-type: none"> » No buildings older than 60 years and of heritage significance were identified within the solar development site. » The grave sites found directly north of the solar development site are not considered to be of cultural significance and furthermore will not be affected by the proposed development. » No archaeological occurrences identified to occur with the solar development site (occurrences found outside the site is to be avoided by all activities). <p>The site remains unchanged as assessed in the EIA process</p>

<p>Industry and Economic Stimulus</p>	<p>The Kai !Garib Local Municipality plays a significant role in the regional and national economy, contributing 22.80% to the ZF Mgcawu District Municipality's GDP and 5.72% to the Northern Cape Province's GDP. The community services sector is the largest contributor to the local economy, followed by agriculture and finance. The finance sector has experienced the highest average annual growth rate, while agriculture has seen a negative growth rate. Looking ahead, Kai !Garib is projected to have a modest average annual growth rate.</p> <p>In terms of employment, the working age population has been growing, but there is an unemployment rate of 12.0% among the economically active population. The primary industry provides the most formal employment, and the total number of jobs, including informal and agricultural workers, is substantial.</p> <p>Demographically, the population is diverse, with Coloured being the largest group. The young working-age group forms the majority, and the population pyramid reflects similarities to the African population group.</p> <p>Education has shown improvements, with a decrease in the number of individuals without schooling and an increase in those with matric or higher education. However, there is still a significant portion of the population without formal education. The functional literacy rate is lower than regional and national averages but has increased over the years.</p> <p>Service delivery challenges persist, particularly in access to piped water, refuse removal, and electricity, which vary among households. Efforts have been made to improve these services, but further progress is needed.</p> <p>The social environment is shaped by the unique landscape of semi-desert, sandy plains, wavy hills, and the Orange River. Intensive irrigation farming, especially vineyards, pecan nut plantations, and citrus plantations, is the primary economic activity. The proposed solar facility is located in a low-output farming area, away from urban areas, and primarily serves as feeding grounds for small livestock.</p>
<p>Site access</p>	<p>The access roads to the site will be from Pofadder or Kakamas, along the N14. This is a tarred National Road, and no alterations should be necessary to handle construction traffic and traffic involved in the operation phase. The access road to the Skuitdrift facility from the N14 has been confirmed as two divisional roads, the R359 and DR3256 which falls under the Siyanda District Municipality (now known as ZF Mgcawu District Municipality).</p> <p>The site access remains unchanged as assessed in the EIA process.</p>
<p>Other planned Projects in the area (during EIA Phase)</p>	<p>Several authorised renewable energy facilities exist in the area surrounding the site of the Skuitdrift 2 Solar Energy Facility:</p> <ul style="list-style-type: none"> » Skuitdrift Solar Energy Facility » Khoi-Sun Solar » Southern Cross Solar Energy Facility » Tutwa Solar Energy Facility <p>The specific facilities are detailed on the Cumulative Map Figure 5.1. It should be noted that the entire property on which these developments are proposed is indicated on this map as the exact footprints of these facilities was not available from the existing database.</p>

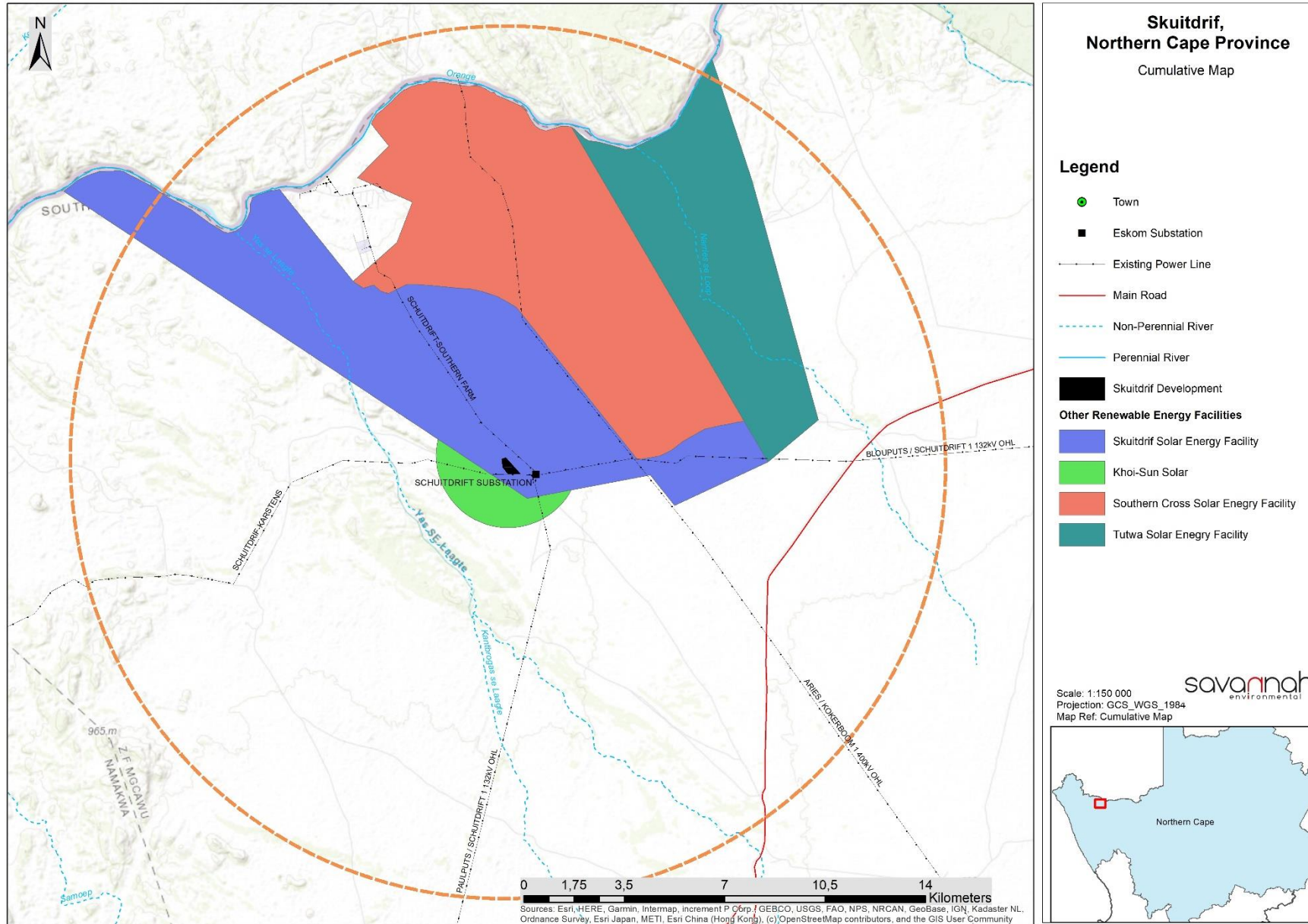


Figure 5.1: Cumulative map showing the authorised development footprint of the Skuitdrif 2 Solar PV Energy Facility relative to other similar developments in the area.

5.2. Impacts on Terrestrial Ecology

The Biodiversity Company was appointed to provide specialist inputs for this Amendment Application in terms of ecological aspects. A single site visit was undertaken to confirm the status of the environment compared to that at the time of the original assessment. This was required in order to make a statement as to whether the environment has changed since the original assessment supported by a site verification report. The following observations were made:

Vegetation:

- The study site lies within the Blouputs Karroid Thornveld vegetation type. The project area and surrounding areas are composed of multiple habitat types as described in the initial report by Simon Todd. Prevailing habitat types within the proposed project area include primarily rocky and sandy plains, and to a small extent rocky outcrops or drainage lines and washes.
- Our findings regarding patterns of vegetation largely confirmed that found within the initial 2013 impact assessment report by Simon Todd. Dominant species within the main project area were predominantly *Stipagrostis* species (*Stipagrostis ciliata*, *S. uniplumis*, *S. anomala*). Trees assemblages comprised mostly of *Senegalia mellifera* and *Phaeoptilum spinosum*. *Boscia foetida* and *Vachellia erioloba* were found in the vicinity of the project area but only a single *V. erioloba* was found within the proposed project area. *Commiphora gracilifrons* was detected on the rocky outcrops in close proximity to the project area. Grass species such *Tricholaena capensis* and *Enneapogon scaber* were also detected on these rocky outcrops. *Rhizozum trichotomum* and *Sisymbrium sparteum* were particularly common in certain parts of the project area.
- Species of Conservation Concern (SCC) were encountered in very low densities within the project area during the reassessment site visit. These included the protected *Hoodia gordonii*, *Aloidendron dichotomum* and *Vachellia erioloba*. *Boscia foetida* was found in close proximity to the project area but not within. A permit would be required for any activities involving these protected species. Densities of the species were higher in areas surrounding the project area and should be protected during the construction process.
- A permit would be required to relocate or remove individuals of this species. To this end, measures recommended in the specialist report should be added to the EMPr.

Reptiles:

- » A high diversity of reptile species was expected to occur within the area of project area as indicated in the CAPE EAPRAC initial report (approximately 45 species). The expected high levels of reptilian diversity is attributed to the composition and high diversity of habitats surrounding the Project area.
- » Within the project area Namaqua Sand Lizards (*Pedioplanis namaquensis*) were detected. In the general areas around the project area we confirmed Western Rock Skink (*Mabuya sulcata*) and a single Cape Cobra (*Naja nivea*) were also found. Very few other reptile species were detected during the May 2023 reassessment. Recorded low level of diversity may due to the cool weather conditions during the survey period, cryptic nature of many of the species that occur at the site and the limited time that we had to search for reptile species.
- » Given the exposed habitat types within the project area, we expect with further more intensive surveys and improved weather the reptile diversity recorded would increase but would not be in line with the high diversity predicted for the area and moreover most species would be in very low densities within the project area.

Mammals:

- » Within the project area, we recorded very few mammals apart from yellow mongoose (*Cynictis penicillate*) and Cape Hare (*Lepus capensis*). Our assessments in the general areas around the project area confirmed the presence of several other mammals including Springbok (*Antidorcus marsupialis*), Aardvark (*Orycteropus afer*), Bat-eared fox (*Otocyon megalotis*), Cape Fox (*Vulpes chama*), Cape Porcupine (*Hystrix africaeaustralis*), Steenbok (*Raphicerus campestris*), Rock Hyrax (*Procavia capensis*) and several small mammals including Western Rock Elephant Shrew (*Elephantulus rufestris*), Hairy-footed Gerbil (*Gerbillurus paeba*), Highveld Gerbil (*Gerbilliscus brantsii*) and South African Ground Squirrel (*Xerus inauris*). Each of the confirmed terrestrial mammals would be capable of dispersing from the project area at the commencement of the proposed development/construction.

Amphibians:

- Due to the aridity of the area, amphibian diversity is low with only four species being expected within the project area.
- Most amphibian species distributed in this area are normally associated with inselbergs and mountain slopes and not sandy/gravel plains which is characteristic of the project area.
- The specialist detected no amphibians during our surveys which may be attributed to the activity of species distributed in this region being highly seasonal and dependent on rainfall.

The conclusions of the Site Sensitivity Verification for the Skuitdrift 2 PV Energy Facility site is as follows:

- » The Project Area was identified with the Environmental Screening Tool as possessing a Very High sensitivity within a Terrestrial Biodiversity Theme. This is due to overlap with Critical Biodiversity Areas and Protected Areas Expansion Strategy Focus Areas.
- » The Project Area was identified with the Environmental Screening Tool as possessing a Low sensitivity within the Animal Theme. No SCCs were flagged and animal diversity and densities were low within the PAOI.
- » The Project Area was identified with the Environmental Screening Tool as possessing a Medium sensitivity within Plant Species Theme. This is due to the presence of sensitive species 144.
- » The Site Ecological Importance (SEI) as provided by the Species Environmental Assessment Guidelines (SANBI, 2020) was determined for the Project Area. This will provide the most appropriate and up to date sensitivity information. A multi-taxon approach was considered for the SEI determination.
- » The Project Area was a mosaic of Very Low to High sensitivity habitats, but primarily Medium sensitivity (refer to **Figure 5.2**). Habitat congruent with the Screening Tool. The High SEI areas were due to the presence of SCC associated with rocky outcrop habitat.
- » Based on the layout design, the overlap of infrastructure within the PAOI is mostly with Medium SEI areas. Appropriate mitigation measures should none the less be employed to minimise the footprints of these as much as possible and rehabilitation of degraded areas.
 - The PAOI site is a combination of High and Medium SEI habitats.
 - The proposed transmission lines cross Medium SEI areas with the buffered 100m area around the transmission line intersecting with small area of High sensitivity habitat. Mitigation measures must be implemented to ensure that ecological disturbances are minimised while resilience is maximised.
- » Mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be adhered to.

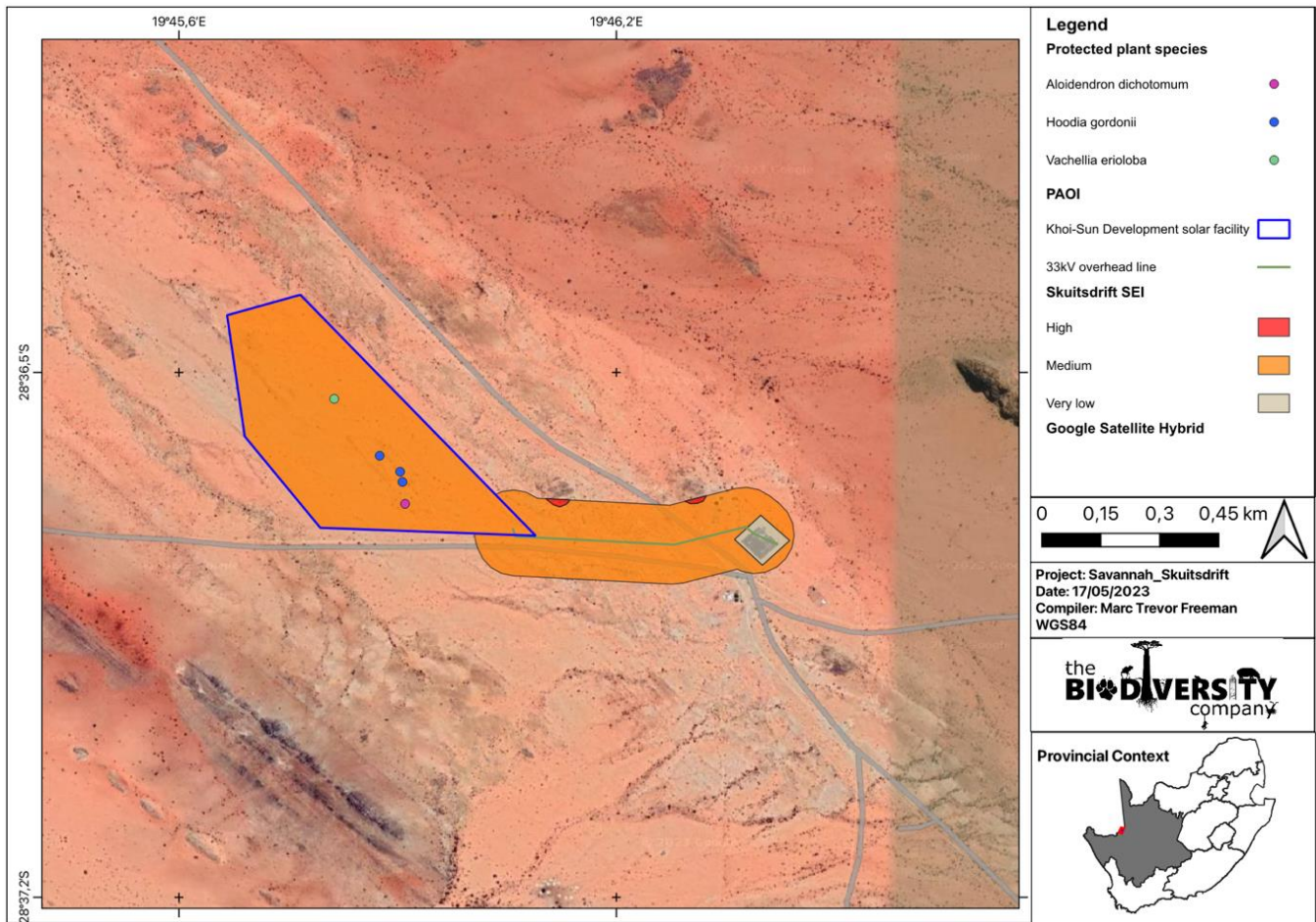


Figure 5.2: Protected plant species and Site Ecological Importance

Cumulative impacts were not assessed as part of the initial studies however, they are assessed as part of the Sensitivity Verification Report. It was concluded that impacts of the proposed layout are expected to be low overall and medium when considered cumulatively.

Mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. In order to manage the impacts effectively, additional mitigation management are recommended and should be put into place for the general impacts associated with flora and fauna.

5.2.1. Conclusion

It is the opinion of the specialist that based on the observations made during the field survey, the ecological importance of the site has not decreased since the undertaking of the EIA studies. In consideration that the project has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in this report and previous reports are adhered to.

5.3. Aquatic Ecology

The Biodiversity Company was appointed to provide specialist inputs regarding aquatic ecology for this Amendment Application. No aquatic ecology assessment was completed as part of the Environmental Impact Assessment (EIA) that was undertaken for the proposed construction of the Skuitdrift 2 Solar PV Energy Facility 75MW and was therefore not available for review and consideration for this amendment. Drainage systems were identified by Simon Todd Consulting (2013), with the ecological sensitivity of these systems determined to be very high for the larger drainage lines. Drainage systems were identified and delineated by Digby Wells (2018), with the ecological sensitivity of these systems determined to be low to moderate. These drainage lines and washes are a characteristic feature of arid and semi-arid environments and are related to the occurrence of occasional intense rainfall events within areas of low total rainfall.

The Biodiversity Company conducted a site assessment followed by a Sensitivity Verification in May 2023. For the site verification the watercourses which may potentially be affected by the proposed activity were assessed. This was done to adequately assess the current state of these systems which was done to gain a holistic image of the system and which habitat may be affected. The following provides a summary of the findings of this study:

- The National Web Based Environmental Screening Tool (NWBEST) has characterised the aquatic biodiversity theme sensitivity for the project area as "low", as no sensitive aquatic systems may be found within/around the project area.
- Due to the ephemeral nature of the watercourses in the area, no standard aquatic assessments were conducted. This was due to the conditions experienced at the time of survey (May 2023). Albeit a late wet season, the ephemeral lotic systems contained insufficient water presence, depth, flow and/or other features, hence multiple intended methods could not be applied and therefore the focus of this report was habitat preservation.
- Based on conditions observed in the field and satellite imagery, drainage areas and aquatic features were delineated in order to identify all sensitive areas considered relevant to the aquatic habitat of the project area. The findings of the above report are sustained, i.e., the delineations of the sensitive areas as well as the sensitivity ratings remain the same. This is presented below in **Figure 5.3**. Therefore, sensitivity features identified in **Figure 5.3** remain the same.
- A risk assessment was completed as part of the Site Verification and concluded that all risks were found to be 'Low' with mitigation and therefore licencing can be completed under a General Authorisation.

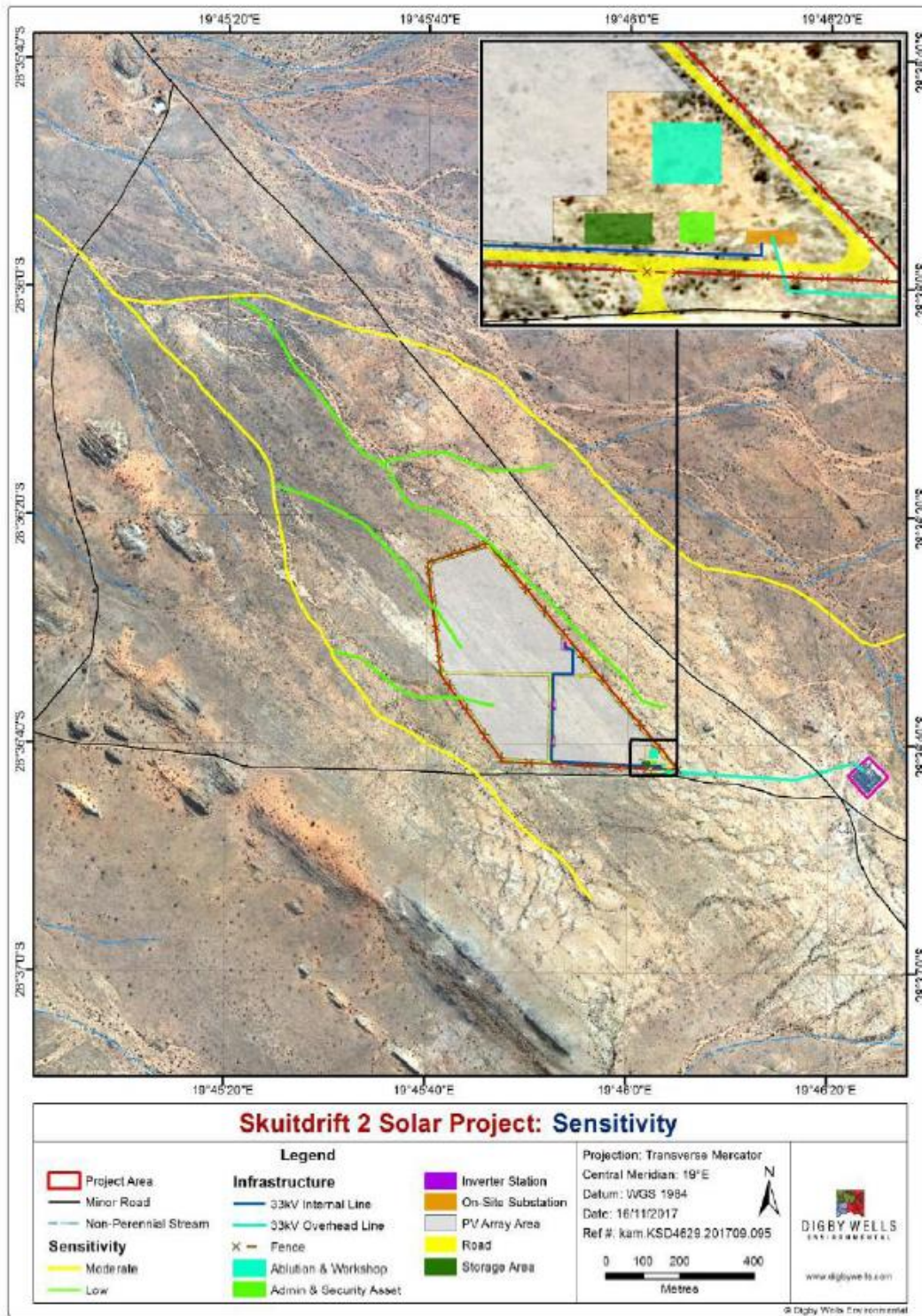


Figure 5.3: Delineation of sensitive areas (Digby Wells, 2018)

A cumulative impact assessment was undertaken as part of the Sire Verification for the site assessed in context of the extent of the proposed project area; other developments in the area; and general habitat loss and transformation resulting from other activities in the area (all activities, as required for assessment of cumulative impacts including surrounding agricultural activities, wind energy facilities, powerlines and associated infrastructure in the region). A medium cumulative impact is expected.

5.3.1. Conclusion

In order to manage the impacts effectively, mitigation management should be put into place as part of the EMPr for the general impacts associated with watercourses. The current EMPr (Savannah Environmental (Pty) Ltd, 2019) did not include impacts related to the watercourses (specifically wetlands) and are not considered comprehensive enough. The specialist input for this amendment presents mitigation measures to be implemented for the powerline in particular.

All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested amendment to the EA. To this end, these measures should be added to the EMPr.

As such, should the measures described in this report be implemented, it is the reasoned opinion of the specialist that the proposed layout as well as requested extension of the current EA be approved.

5.4. Impacts on Avifauna

The Biodiversity Company was appointed to provide specialist inputs regarding avifauna for this Amendment Application. The field surveys for this assessment were undertaken during the 30th of March 2023 to the 7th May 2023 which constitutes a late austral late summer season survey. The assessed avifauna was within and around the previously approved project area. Nevertheless, based on the previous reports and considering the structure of the habitats and dominant avifauna species, there is a high level of confidence in the understanding of the present ecological condition and avifauna community structures. The following provides a summary of the findings of this study:

- » The Project Area was identified with the Environmental Screening Tool as possessing a Medium sensitivity within Avian Species Theme. No SCC were flagged during the screening process.
- » The Site Ecological Importance (SEI) as provided by the Species Environmental Assessment Guidelines (SANBI, 2020) was determined for the Project Area. This will provide the most appropriate and up to date sensitivity information. A single-species approach was considered for the SEI determination. Refer to **Figure 5.4**.
- » The Project Area was identified with the Environmental Screening Tool as possessing a Medium sensitivity within Avian Species Theme. No SCC were flagged during the screening process.
- » The Site Ecological Importance (SEI) as provided by the Species Environmental Assessment Guidelines (SANBI, 2020) was determined for the Project Area. This will provide the most appropriate and up to date sensitivity information. A single-species approach was considered for the SEI determination.
- » The Project Area had Very Low to High sensitivity habitats, but primarily Medium sensitivity. Habitat congruent with the Screening Tool. The High SEI areas were due to the presence of SCC associated with rocky outcrop habitat.
- » Based on the layout design, the overlap of infrastructure within the PAOI is mostly with Medium SEI areas. Appropriate mitigation measures should none the less be employed to minimise the footprints of these as much as possible and rehabilitation of degraded areas.
 - o The PAOI site is a combination of Medium SEI habitats.
 - o The proposed transmission lines cross Medium SEI areas with the buffered 100m area around the transmission line intersecting with small area of High sensitivity habitat (refer to **Figure 5.4**). Mitigation measures must be implemented to ensure that ecological disturbances are minimised while

resilience is maximised. The mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be adhered to

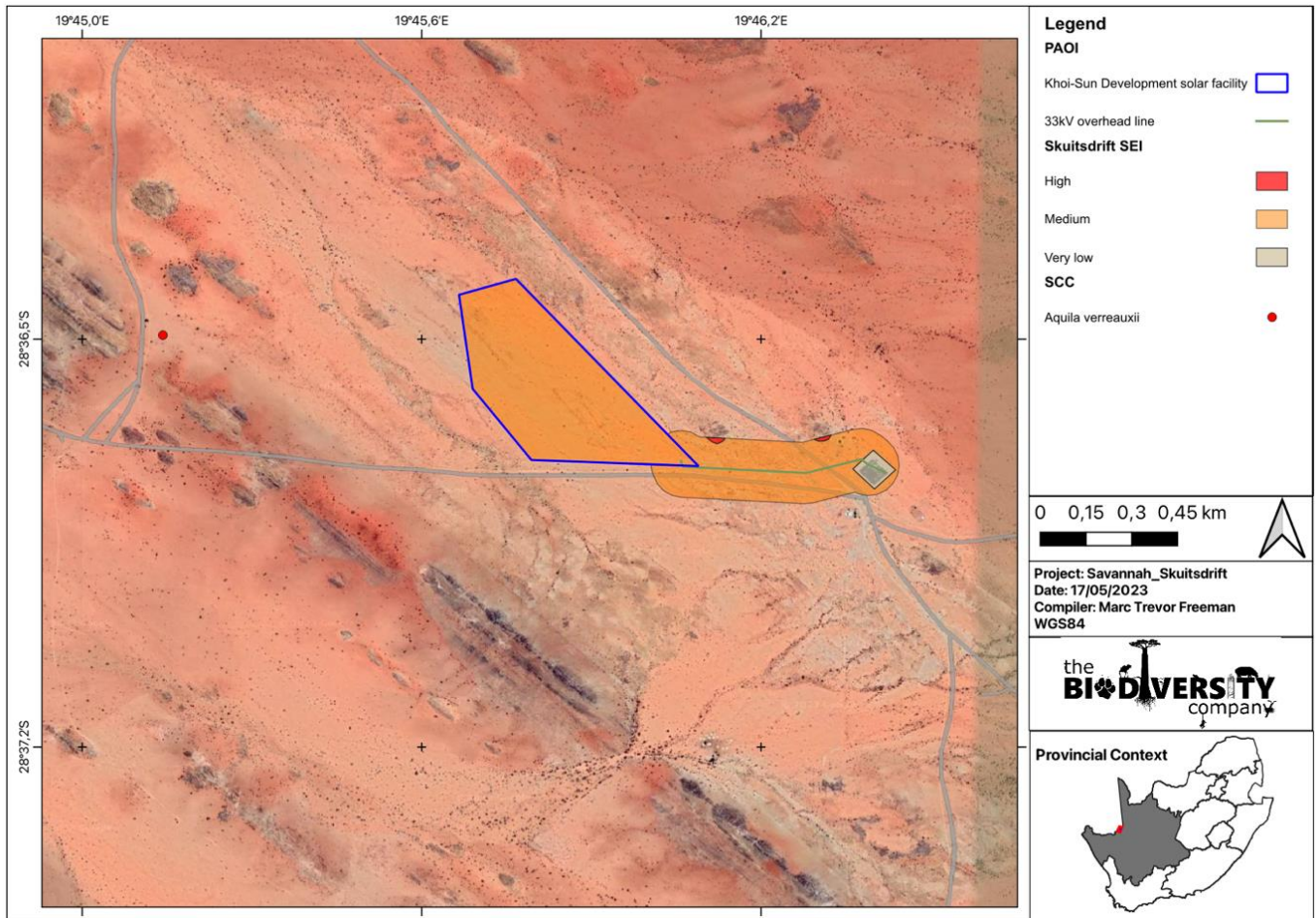


Figure 5.4: Site Ecological Importance and location of identified sensitive avifauna

Cumulative impacts were not assessed as part of the initial studies however, they are assessed as part of the Sensitivity Verification Report. Impacts of the proposed layout are expected to be low overall and medium when considered cumulatively.

Mitigation measures prescribed by each of the reviewed specialist reports remain applicable and must be adhered to. All prescribed mitigation measures and supporting recommendations presented will help to achieve an acceptable residual impact. These measures and recommendations will remain applicable for the requested extension of the EA. In order to manage the impacts effectively, additional mitigation management are recommended and should be put into place for the general impacts associated with flora and fauna.

5.4.1. Conclusion

It is the opinion of the specialist that based on the observations made during the field survey, the avifauna community structure of the site has not decreased since the completion of the EIA studies. In consideration that the project has been previously authorised the proposed development may proceed, under the condition that all mitigation measures provided in the 2023 report and previous reports are adhered to.

5.5. Impacts on Soils and Agricultural Potential

The Biodiversity Company was appointed to provide specialist inputs regarding soils and agricultural potential for this Amendment Application.

The dominant soil forms found within the proposed project area during the 2023 survey include Glenrosa and Mispah soil forms (see Figure 2). Glenrosa soil form consists of an orthic topsoil on top of a lithic horizon; and Mispah soil form consists of a shallow orthic layer on top of a fractured rock or solid rock. The identified soil forms are associated with low land capability and low land potential. Furthermore, the available climate conditions of the proposed project area are not favorable for intense agricultural production due to the low precipitation and high temperature and high evapotranspiration.

The current (2023) soil and agricultural survey confirms that the EIA (2012) soil and agricultural baseline findings for the Khoi-Sun Development Solar Facility are still applicable and invariable, therefore the predicted impacts and provided mitigation measures still applies to the proposed land capability of the assessment site. It should be noted that the current soil and agricultural potential were classified using the updated soil taxonomic "Soil Classification Working Group, 2018."

5.5.1. Conclusion

The specialist confirms that the proposed project activities will not result in any additional impacts and will not increase the level or nature of the impact on the available land resources, which was initially assessed and considered when application was made for an EA and subsequent amendments. The significance ratings will remain unchanged, and the proposed mitigation and management measures proposed as part of the EIA process will still suffice.

5.6. Visual Impacts

LOGIS was appointed to provide a statement on the visual impact that the Skuitdrift 2 Solar PV Energy Facility development will in pose to the surrounding area. It was confirmed that the description of the affected environment, as described in the final Environmental Impact Assessment (EIA) report remains unchanged. There have been no change in land use for the proposed development site, no new developments have been constructed on or near the development site, and the land use zonation (agriculture) remains the same. This conclusion was verified through consultation with the project proponent and the current land owner(s).

The proposed extension of the validity of the EA by an additional ten years is not expected to alter the influence of the project infrastructure on areas of higher viewer incidence (observers traveling along the roads within the region) or potential sensitive visual receptors (residents of homesteads in closer proximity to the infrastructure).

The proposed amendment to the validity of the EA is consequently not expected to influence the anticipated visual impact, as stated in the original EIA report (i.e. the proposed development site would not be visible from any main roads, public vantage points or any other known area or site considered to be of

local, provincial or national aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value cultural significance).

From a visual perspective, the proposed amendment will therefore require no (zero) changes to the significance rating within the original visual assessment that was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

There are no new assessment guidelines which are now relevant to the authorised development which were not undertaken as part of the initial visual assessment. Additional to this, and as stated above, there have been no changes to the environment of the proposed development site or the surrounding environment.

In terms of cumulative impact, it is worth noting that even though the proposed Skuitdrift Solar PV Facility 2 is not located within a Renewable Energy Development Zone (REDZ) it does fall within the Northern Corridor of the Strategic Transmission Corridors.

Strategic Transmission Corridors are:

“areas where long term electricity grid infrastructure will be developed and where an integrated decision-making process for applications for environmental authorisation in terms of the National Environmental Act (1998) will be followed.”

The consolidation and concentration of renewable energy facilities (and associated grid connection infrastructure) within these zones are therefore preferred and the cumulative visual impact is deemed to be of an acceptable level i.e. the amendment is not expected to alter the potential cumulative visual impact rating as stated in the original EIA report:

“In context of the broader landscape, the cumulative impacts are not likely to be highly significant given the extensive intact nature of the landscape as a whole”.

5.6.1. Conclusion

The proposed amendment will require no changes to the impact significance ratings as stated within the original VIA report which was used to inform the approved EIA. In addition to this, no new mitigation measures are required.

It is suggested that the amendment to the project infrastructure be supported, subject to the conditions and recommendations as stipulated in the original EA, and according to the Environmental Management Programme (EMPr) and suggested mitigation measures.

5.7. Heritage Impacts

CTS Heritage was appointed to provide specialist inputs regarding heritage aspects for this Amendment Application. An archaeologist conducted an assessment of archaeological resources likely to be disturbed by the proposed development in May 2023 and completed relevant fieldwork.

The development site is within a region of very high aridity. The Orange River is located about 13km away and hunter-gatherers have utilised the availability of water and left a relatively consistent presence of material throughout the area. Stone artefacts are thinly but even spread across the level plain but cluster

where small outcrops occur such as those at observation 001. The previous surveys by Morris (2017) and Smith (2012) are still relevant as the area has not been developed and the conditions are very much the same as those which were experienced when the first surveys for this development took place. Artefacts made from jasper lite, quartzites, quartz and hornfels can be found spanning the MSA through the LSA with general densities increasing the closer one moves towards the Orange River and around prominent outcrops.

The area proposed for the PV development was surveyed by Smith in 2012, by Morris in 2017 and again in 2023 by CTS Heritage. The results of all the three field assessments are reflected in the table below and in **Figure 5.5**.

Table 5.1: Observations identified during the field assessment completed in 2023, 2017 (by Morris) and 2012 (by Smith)

Site Name	Description	Type	Period	Density	Co-ordinates		Grading	Mitigation
001	Various quartzite and quartz cores, flakes near granite outcrop	Artefacts	MSA, LSA	30+	-28.610721	19.769158	NCW	NA
Extracted sites from David Morris 2017								
2017/1	Jaspilite flake	Artefacts	MSA	0 to 5	-28.60655556	19.76213889	NCW	NA
2017/2	Quartzite flake	Artefacts	MSA	0 to 5	-28.60761111	19.76219444	NCW	NA
2017/3	Jaspilite flake and nearby flaked river-rolled pebble	Artefacts	MSA	0 to 5	-28.60916667	19.76327778	NCW	NA
2017/4	Quartz flake	Artefacts	MSA	0 to 5	-28.60708333	19.76208333	NCW	NA
2017/5	Two quartz flakes	Artefacts	MSA	0 to 5	-28.60708333	19.76336111	NCW	NA
2017/6	Flaked river-rolled pebble	Artefacts	MSA	0 to 5	-28.60769444	19.76144444	NCW	NA
2017/7	Flaked river-rolled pebble	Artefacts	MSA	0 to 5	-28.60825	19.76105556	NCW	NA
2017/8	Jaspilite flake	Artefacts	MSA	0 to 5	-28.60813889	19.76122222	NCW	NA
2017/9	Quartzite flake	Artefacts	MSA	0 to 5	-28.60858333	19.76219444	NCW	NA
2017/10	Quartzite flake	Artefacts	MSA	0 to 5	-28.60913889	19.76191667	NCW	NA
2017/11	Jaspilite flake	Artefacts	MSA	0 to 5	-28.61036111	19.76377778	NCW	NA
2017/12	Quartzite flake broken	Artefacts	MSA	0 to 5	-28.61066667	19.76447222	NCW	NA
2017/13	Jaspilite manuport with edge damage and one flake Removal	Artefacts	MSA	0 to 5	-28.61083333	19.76544444	NCW	NA
2017/14	Jaspilite flake	Artefacts	MSA	0 to 5	-28.61097222	19.76538889	NCW	NA
2017/15	Quartzite flake	Artefacts	MSA	0 to 5	-28.61119444	19.76583333	NCW	NA
2017/16	Quartz flake	Artefacts	MSA	0 to 5	-28.60877778	19.76538889	NCW	NA

Site Name	Description	Type	Period	Density	Co-ordinates		Grading	Mitigation
Extracted sites from Smith 2012								
133	Skuitdrift Farmhouse	Structure	Historic	n/a	- 28.61262458	19.77275133	IIIC	NA
134	MSA quartzite core	Artefacts	MSA	0 to 5	- 28.61454833	19.77209922	NCW	NA
135	MSA quartz flake	Artefacts	MSA	0 to 5	- 28.61626192	19.76544911	NCW	NA
137	Crystal quartz & hornfels flake	Artefacts	MSA	0 to 5	- 28.60509161	19.75338972	NCW	NA
138	Quartz core/scrapper + flakes	Artefacts	MSA	0 to 5	- 28.60128244	19.75015011	NCW	NA
155	Onderveld Farmhouse	Structure	Modern	n/a	- 28.59561586	19.75386589	NCW	NA
156	Quartz core + few chips	Artefacts	MSA	0 to 5	- 28.60029331	19.7627405	NCW	NA
157	Quartz flake + scraper	Artefacts	MSA	0 to 5	- 28.60103442	19.76476094	NCW	NA
158	Scattered quartz flakes & core	Artefacts	MSA	0 to 5	- 28.59948914	19.76769622	NCW	NA
159	Hornfels flake	Artefacts	MSA	0 to 5	- 28.60190322	19.77156328	NCW	NA
161	Thin scatter of quartz pieces	Artefacts	MSA	0 to 5	- 28.60190297	19.77156103	NCW	NA
164	Thin scatter of quartz pieces	Artefacts	MSA	0 to 5	- 28.60580358	19.77294628	NCW	NA
168	Huge surface scatter of quartz	Artefacts	MSA	30+	- 28.57641703	19.7345285	NCW	NA
DeKock2012								
026	AP Nel grave, 1962	Graves/Burial Grounds	Modern	n/a	- 28.60911111	19.77486111	IIIA	NA

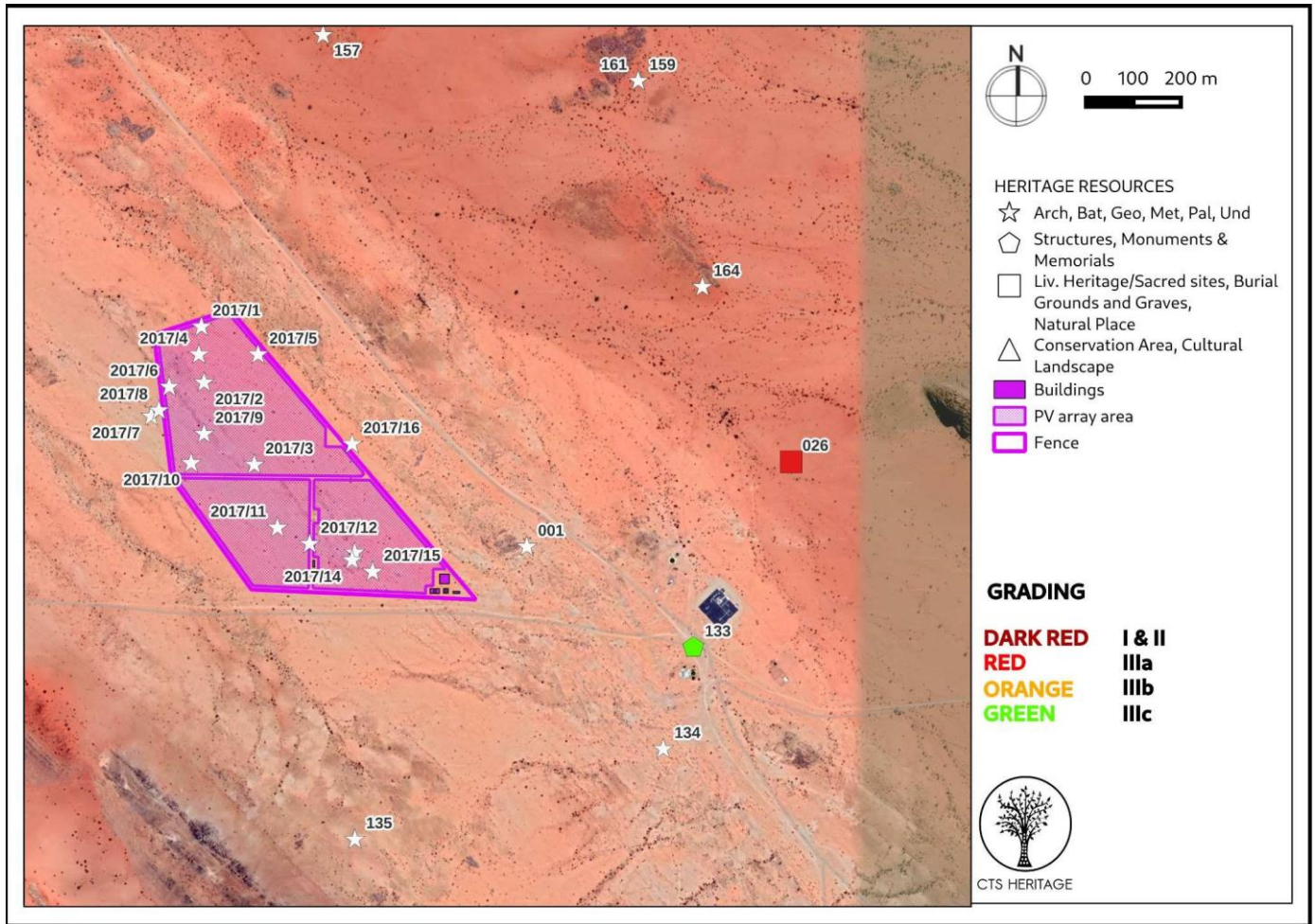


Figure 5.5: Heritage resources in the vicinity of the proposed development

Based on the assessment completed, the area proposed for development has a low archaeological sensitivity and it is not foreseen that the proposed development will impact on significant archaeological heritage. The only archaeological observations identified during the field assessment of the area proposed for development in 2023 were determined to be not conservation worthy.

Other sites of known heritage significance identified by others (De Kock, 2012, Smith, 2012 and Morris, 2017) are located well away from the proposed development area and no impact is anticipated. According to the letter of recommendation for exemption from further heritage studies completed by Almond (2012), "The above report indicates that the proposed development site is underlain by ancient Precambrian basement rocks (Schuitdrift Gneiss) that are approximately two to one billion years old and entirely unfossiliferous (Almond & Pether 2008). The report furthermore indicates that while alluvial gravels of the Orange River of Miocene and younger age are locally highly fossiliferous, these are highly unlikely to be found in the study area. The palaeontological sensitivity of the Skuitdrift solar plant study area is accordingly assessed as VERY LOW. As such, it is recommended that no further palaeontological studies be required in this instance." This recommendation remains appropriate and is reiterated in this assessment.

Cumulative impact in terms of heritage was assessed by reviewing the renewable energy facilities that are proposed within 20km of the proposed development area and includes the previously assessed and authorised renewable energy facilities that fall within the development area assessed in this HIA.

At this stage, there is the potential for the cumulative impact of numerous proposed solar energy facilities and their associated infrastructure to negatively impact the cultural landscape due to a change in the landscape character from natural wilderness to semi-industrial. However, due to the remoteness of the area the impact on the experience of the cultural landscape is not foreseen to be significant.

5.7.1. Conclusion

The area proposed for development has a low overall heritage sensitivity and it is not foreseen that the proposed development will impact on significant heritage resources.

No significant heritage resources that were identified during this or the previous assessment (2012 and 2017) will be negatively impacted by the proposed development. Therefore, there is no objection, from a heritage perspective to the proposed extension of the EA for this proposed development.

5.8. Social Impacts

The below provides an update in this regard based on current information.

Kai !Garib Local Municipality, located in South Africa's Northern Cape Province, has experienced modest economic growth over the years. In 2018, the municipality's GDP reached R 5.62 billion, contributing 22.80% to the overall GDP of the ZF Mgcawu District Municipality. The community services sector is the largest contributor to the local economy, accounting for 22.9% of the Gross Value Added (GVA), followed by agriculture at 19.1% and finance at 14.7%. The municipality's labor force participation rate decreased slightly from 71.45% to 68.09% between 2008 and 2018, with an unemployment rate of 12.0%.

The population of Kai !Garib is diverse, with 28.46% African, 7.00% White, 63.32% Coloured, and 1.23% Asian individuals. The majority of the population falls within the young working age category of 25-44 years. Educational attainment has improved over time, with an increase in the number of people completing matric and higher education. However, the functional literacy rate in the municipality (76.11%) is lower than the national average (84.42%), indicating the need for further improvement.

Access to basic services has seen progress, but challenges persist, particularly in informal areas. The municipality has made efforts to provide piped water inside dwellings and ensure regular refuse removal. However, there is still a portion of the population without formal piped water or reliable refuse removal. Electricity access has also increased, but there are households without electrical connections.

While the municipality has experienced positive growth, the rate is expected to be slower compared to other regional economies. HIV infection rates have shown an increase, requiring ongoing efforts to address and manage the impact. Continued focus on economic development, education, basic service delivery, and healthcare will be crucial to improving the overall well-being and prospects of Kai! Garib Local Municipality.

Previously identified impacts per project phase

The previous study identified the devastating effect on the economy and employment the region was facing as a result of the closing of a number of zinc and copper mines in the area since the 1990's. The study notes that power generation is one of the rare growth opportunities for the Northern Cape due to the high solar

irradiation levels and its strategic position relative to the National Transmission Network. Thus, the proposed development at the time was considered essential to the economic development of the region.

The site is located far outside of the Kakamas urban edge and as a result it was deemed unlikely to impact negatively on the community's health and wellbeing. More specifically, due to the remote nature of the site, visual impact was deemed to be negligible. Further, it was deemed unlikely that the proposed activity on the land would result in unacceptable loss of opportunities. The other use for the land, as mentioned above, is for limited agricultural use. The proposed solar development site does not have any significant agricultural value however, as it was in a degraded state due to overgrazing and had thus not been used for any extensive agricultural purposes.

Specialist opinion on previously identified impacts

Based on the understanding of the proposed amendments, it is the specialist's opinion that the identified impacts will not change. The construction cost might increase which will have a small impact on production, GDP, employment, and household standards of living, however due to the very small changes and the extent of these impacts the significance will not be affected. The visual impact will also not be altered during the construction phase. Similarly, based on an understanding of the proposed amendments and extended timeframes, it is this specialist opinion that the identified impacts for the operation phase will also not change.

Previously recommend mitigation and enhancement measures

The study noted that there was no skilled labour in the field of renewable energy as of yet and that the employment structure will consist of local and overseas capacity. To ensure success, the study suggested that the developers utilise the skills of outside labour to cross-train local specialists. This training and skills development was to focus on technical maintenance and administration.

As mentioned, the demographic profile of the area remained largely stable from 2008 to 2018, with general but slow progress. There have been some improvements in the local education level, however with the persistent low population density the previous reports recommendations are mostly still relevant. As such this study would also suggest that the developers utilise the skills of outside labour and to cross-train local specialists. However, the beginning point of this process should be to seek local skilled labour before broadening the search to fill specialised and skilled positions further afield.

Cumulative Impacts

The previous report noted that there were already a number of on-going applications in the region. The potential for further, future solar developments near the site could not be discounted, already a smaller 10MW project had been authorised on the same property.

The previous report suggested that cumulative impacts of the facility along with others (authorised and future planned) in the area could result in benefits for the economy and growth of the area, while the contributing to cumulative habitat loss in the area associated with this and potential future solar development could be managed through proper planning (strategic location, avoidance of sensitive habitats etc.), and therefore would be relative.

More recently, there were several renewable energy facilities approved. The proposed Skuitdrift Solar PV Facility together with existing and proposed renewable developments will assist in the enabling of efficient and effective expansion of key infrastructure to satisfy local and national grid requirements. The implementation of this project would therefore assist/ strengthen the electricity network of the South African National Grid, meeting the growing demand for electricity in the area and improving service quality and reliability. Reliable, i.e., uninterrupted, supply of electricity to the country is one of the prerequisites for development and economic growth as businesses.

Having a concentration of these kind of developments in the area would likely mean an increase in the of visual impact and sense of place. The area is however very rural, with a low population density, meaning the extent of the impact would be mitigated. Further, having the developments concentrated in one area means that the larger landscape surrounding the proposed developments will largely remain untouched.

5.8.1. Conclusion

The specialist assessed the proposed amendments and confirmed that there is no significant change to the affected social environment or the scope and nature of the proposed project. Therefore, from a socio-economic perspective, there is no reason why the proposed amendment should not be authorised.

6. CONCLUSION AND MOTIVATION FOR APPROVAL OF THE REQUESTED AMENDMENTS

The Skuitdrift 2 Solar PV Energy Facility ("the Project") (DFFE Reference: 12/12/20/2600) received EA on the 26 June 2013. The extension of the EA validity is requested in order to enable the holder of the EA to (a) bid the project in upcoming rounds of the REIPPPP (the date of which is unknown) or any other government tenders or private off-taker programmes and b) commence with construction following Financial Close (should the project be selected as a preferred bidder) prior to the EA lapsing.

By maintaining the validity of the EA, the applicant can explore the option of tendering in private off-taker or other government programmes should the REIPPPP bid not occur. This will enable the applicant to generate and supply the green electricity produced and reduce reliance on external factors, such as delays in the REIPPPP program. It provides Khoi-Sun Development (Pty) Ltd the opportunity to contribute to sustainability goals independently and showcase their commitment to clean energy.

The following are the key motivating factors which indicate the advantages to granting the requested amendments:

1. Impacts identified within the original report are still applicable for the proposed project. **No additional impacts or changes in impact significance will result because of the amendments as the environment has not changed.** Additional best practice mitigation measures are recommended as part of this amendment process to ensure impacts are appropriately managed. Following specialist inputs for the proposed amendment, provided that mitigation measures as documented in the EMPr and as required in the specialist reports are implemented, the recommendation is that the amendment be approved.
2. There is no objection to the proposed amendments by any of the specialist consultants who have completed a verification assessment.
3. The development has the ability to create employment, opportunities for contractors in the region, ownership opportunities for local communities, skills, supplier and enterprise development spend and the implementation of socioeconomic development initiatives.
4. All the potential cumulative impacts associated with the project planned within the area (30km radius) are considered to be low to moderate and will not change as a result of the proposed amendment.

Based on the nature of the requested amendment for the Skuitdrift 2 Solar PV Energy Facility and Associated Infrastructure, the specialist findings confirmed that the environment has not materially changed since the undertaking of the EIA in 2013, the impact ratings as provided in the initial assessment remain valid, and the mitigation measures provided in the initial assessment are still applicable. In some instances, additional mitigation measures have been provided to ensure best practice management of impacts. These are based on new information available on developments of this nature and not as a result of the requested amendments.

Therefore, taking into consideration the conclusions from the specialist site verification and motivation reports (**Appendix A - G**) and the findings of this report, it is concluded that the proposed amendment to the validity of the EA is not expected to result in an increase to the significance ratings for the identified potential impacts, and should accordingly be approved.

7. PUBLIC PARTICIPATION

A public participation process is being conducted in support of the Application to amend the Environmental Authorisation (Ref: 12/12/20/2600) issued for the proposed development of the Skuitdrift Solar PV Energy Facility 2 and associated infrastructure. The Public Participation has been undertaken in accordance with the requirement of Chapter 6 of the EIA Regulations of December 2014, as amended. The following key public participation tasks have been undertaken:

- » The database/register of I&APs has been updated and maintained.
- » Placement of site notices at the site during **June 2023** (refer to **Appendix H**).
- » Written notifications to registered I&APs as well as Organs of State regarding the availability of the Motivation Report were distributed on **07 July 2023** (refer to **Appendix H**).
- » Placement of an advertisement in the **Die Plattelander** newspaper on **Friday 07 July 2023** announcing the availability of the Motivation Report for a 30-day review and comment period.
- » The Motivation Report has been made available for the 30-day review and comment period from **07 July 2023 to Monday 07 August 2023**. The report is available for download on the Savannah Environmental website: <https://savannahsa.com/public-documents/>.

Comments received during the 30-day review and comment period will be included as **Appendix H** in the final submission of the Motivation Report to the DFFE for consideration in the decision-making process. Comments will be included and responded to in a Comments and Responses Report, to be included as **Appendix H** of the Final Motivation Report. Proof of attempts made to obtain comments from relevant Organs of State and key stakeholders will also be included in **Appendix H** of the Final Motivation Report.