



# De Hoek Solar PV Facility

## Ecological Compliance Statement



ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

# Ecological Compliance Statement

Prepared for:



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May 2021

## REVISIONS TRACKING TABLE

### *CES Report Revision and Tracking Schedule*

<b>Document Title:</b>	Terrestrial Compliance Statement for the proposed De Hoek PV Plant near Piketberg, Western Cape Province		
<b>Client Name &amp; Address:</b>	Sturdee Energy Second Floor, Grosvener Gate, Hyde Lane Office Park, Hyde Park, JHB		
<b>Status:</b>	Draft 1		
<b>Issue Date:</b>	May 2020		
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<b>Report Distribution</b>	<b>Circulated to</b>	<b>No. of hard copies</b>	<b>No. electronic copies</b>
	Monique Jordaan		1
<b>Report Version</b>	<b>Date</b>		
	May 2021		

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Curriculum vitae attached

## DECLARATION

Role on Study Team	Declaration of independence
<b>Report production</b>	<p>I, Tarryn Martin, declare that, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amended Environmental Impact Assessment Regulations, 2017;</p> <ul style="list-style-type: none"> <li>• I act as the independent specialist in this application;</li> <li>• I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;</li> <li>• I declare that there are no circumstances that may compromise my objectivity in performing such work;</li> <li>• I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;</li> <li>• I will comply with the Act, Regulations and all other applicable legislation;</li> <li>• I have no, and will not engage in, conflicting interests in the undertaking of the activity;</li> <li>• I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;</li> <li>• All the particulars furnished by me in this report are true and correct; and</li> <li>• I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.</li> </ul> <p style="text-align: center; margin-top: 20px;">             .....              SIGNED <span style="float: right;">DATE</span> </p>
<b>Faunal Assessment</b>	<p>I, Amber Jackson, declare that, in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Amended Environmental Impact Assessment Regulations, 2017;</p> <ul style="list-style-type: none"> <li>• I act as the independent specialist in this application;</li> <li>• I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;</li> <li>• I declare that there are no circumstances that may compromise my objectivity in performing such work;</li> <li>• I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;</li> <li>• I will comply with the Act, Regulations and all other applicable legislation;</li> <li>• I have no, and will not engage in, conflicting interests in the undertaking of the activity;</li> <li>• I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;</li> <li>• All the particulars furnished by me in this report are true and correct; and</li> <li>• I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.</li> </ul>



	.....	.....
	SIGNED	DATE



## ACRONYM LIST

AOO	Area of Occupancy
CBA	Critical Biodiversity Area
CES	Coastal and Environmental Services
CR	Critically Endangered
ECO	Environmental Control Officer
EN	Endangered
ESIA	Environmental and Social Impact Assessment
EOO	Extent of Occupancy
GBIF	Global Biodiversity Information Facility
GIS	Geographical Information System
IUCN	International Union for Conservation of Nature
LC	Least Concern
NEMBA	National Environmental Management Biodiversity Act
SCC	Species of Conservation Concern
SA	South Africa
SANBI	South African National Biodiversity Institute
SCC	Species of Conservation Concern
TOPS	Threatened and Protected Species



## DEFINITIONS

**Alien Invasive Species** refers to an exotic species that can spread rapidly and displace native species causing damage to the environment

**Biodiversity** is the term that is used to describe the variety of life on Earth and is defined as “the variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems, and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems” (Secretariat of the Convention on Biological Diversity, 2005).

**Habitat Fragmentation** occurs when large expanses of habitat are transformed into smaller patches of discontinuous habitat units isolated from each other by transformed habitats such as farmland.

**Key Biodiversity Area** are globally recognised sites that contain significant concentrations of biodiversity.

**Natural Habitat** refers to habitats composed of viable assemblages of plant and/or animal species of largely native origin and/or where human activity has not essentially modified an area’s primary ecological function and species composition.

**Protected Area** is a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values. (*IUCN Definition 2008*).



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# 1. INTRODUCTION

## 1.1 PROJECT DESCRIPTION AND LOCALITY

Sturdee Energy has been appointed by PPC Cement to develop a 7MW AC Solar PV Plant and associated infrastructure adjacent to the PPC De Hoek Factory, located near Piketberg in the Bergriver Municipality in the Western Cape Province (Figure 1-1). The proposed Solar PV plant will encompass an area of less than 20 hectares and will be used to generate power for private consumption at the adjacent cement factory and neighbouring mine. An 11.5 kV single-circuit overhead line (OHL), approximately 1.88 km (preferred route length) in length, will be required to connect the new proposed plant to the existing PPC 11kV substation.

The proposed project will contain internal gravel roads, security guardhouse (at the access point) and an operations and maintenance building.

## 1.2 SITE SENSITIVITY VERIFICATION AND MINIMUM REPORT CONTENT REQUIREMENTS

In terms of the Protocol for the Specialist Assessment and Minimum Reporting Content Requirements for Environmental Impacts on Terrestrial Biodiversity (GN R. 320 of 2020), prior to the commencement of a specialist assessment, the current use of the land and the potential environmental sensitivity of the site under consideration as identified by the screening tool, must be confirmed by undertaking a site sensitivity verification. The results of the screening tool, together with the site sensitivity verification, ultimately determines the minimum report content requirements.

According to the results of the Screening Report generated for the proposed 7MW De Hoek Solar PV Facility, the relative terrestrial biodiversity theme sensitivity is classified as VERY HIGH due to portions of the site occurring within a Critical Biodiversity Area (CBA) 1, an Ecological Support Area (ESA) 2 and a critically endangered ecosystem. Furthermore, the Animal Species Theme was of medium sensitivity due to the potential presence of four invertebrate species, and the plant species theme was of medium sensitivity due to the possible presence of a number of sensitive plant species. According to Section 3 (1) of GN R. 320, '*an applicant intending to undertake an activity identified in the scope of this protocol, on a site identified on the screening tool as being of "very high sensitivity" for terrestrial biodiversity, must submit a Terrestrial Biodiversity Specialist Assessment*'.

Interrogation of the Biodiversity Spatial Plan indicates that although the broad site has been classified as very high sensitivity, the site of the PV facility is not classified as a CBA or ESA, although there are small patches of areas classified as CBAs adjacent to the powerline route (Figure 1.1). Additionally, the site visit indicated that the powerline options and the solar PV plant have been placed on existing agricultural land i.e. within wheat fields and that areas of natural vegetation have been largely avoided. The small patches of vegetation that are impacted were found to be degraded and of low diversity. As such, a compliance statement (this report) was undertaken rather than a full terrestrial biodiversity specialist assessment.

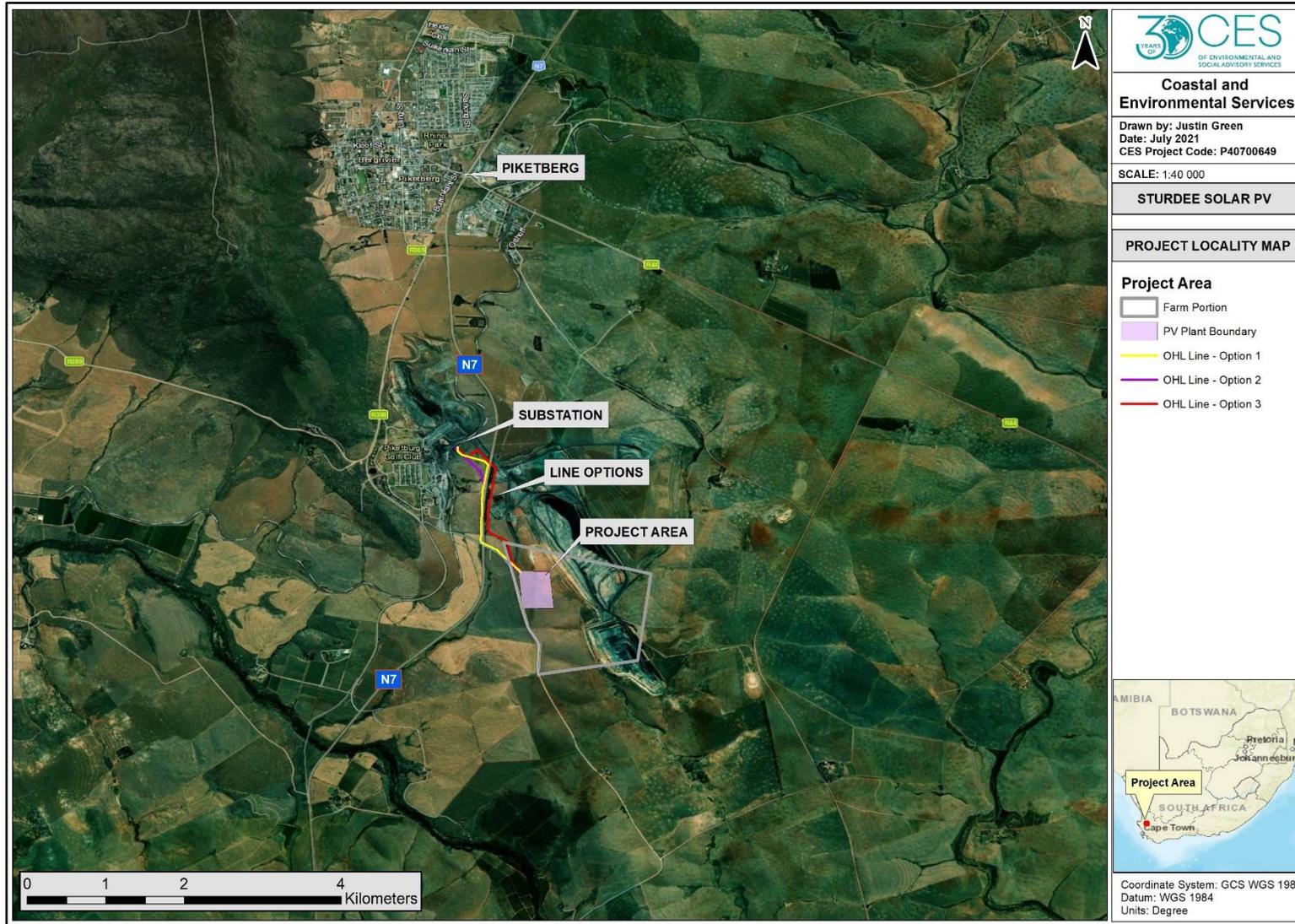


Figure 1-1: Locality map showing the site in relation to the town of Piketberg.

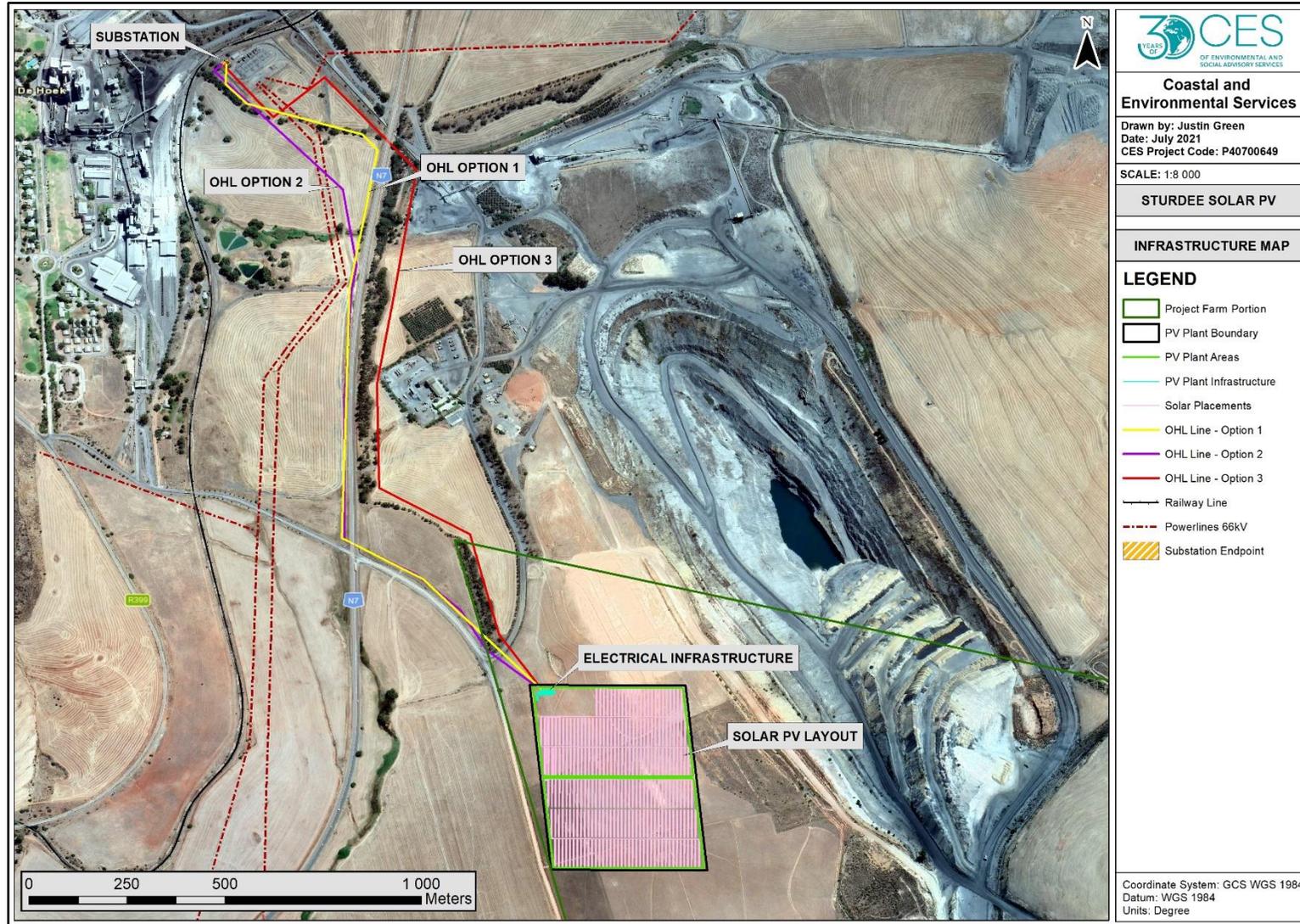


Figure 1-2: Map showing the location of the solar PV plant and two overhead powerline options that will connect the facility to the PPC substation.



## 2. METHODOLOGY

### 2.1 DESKTOP ASSESSMENT

Prior to the field survey, a desktop assessment was undertaken. Key resources that were consulted include the following:

- The South African Vegetation Map (Mucina and Rutherford, 2018);
- The Western Cape Biodiversity Spatial Plan (2017);
- The Western Cape Landcover Project, 2014
- The National Environmental Management: Biodiversity Act (NEMBA), 2004: List of Threatened Ecosystems (2011);
- The National Protected Areas Expansion Strategy (NPAES,2010);
- National Biodiversity Management: Biodiversity Act (NEMBA) List of Alien Invasive Vegetation;
- Plants of Southern Africa (POSA) database; and
- iNaturalist.

### 2.2 FIELD SURVEY

A site visit was undertaken in a single day on the 15 April 2021 to assess the site-specific ecological state, current land-use, identify potential sensitive ecosystems and identify plant species associated with vegetation types. The site visit also served to identify potential impacts of the proposed development, and its impact on the surrounding ecological environment.

A total of five sample sites were investigated across the study area (23 ha) and powerline route (1.8km). At each sample site, the vegetation was characterised and the likelihood of SCC present was assessed.

### 2.3 SAMPLE SITE SELECTION

A sampling protocol was developed that would enable us to evaluate the existing desktop interpretations of the vegetation of the study area, to improve on them if necessary, and to add detailed information on the plant communities present. The protocol considered the amount of time available for the study, the accessibility of different parts of the area, and limitations such as the seasonality of the vegetation.

A stratified random sampling approach was adopted, whereby initial assumptions were made about the diversity of vegetation, based on Google Earth, spatial planning tools and available literature and the area stratified into these basic types. In this way the time available was used much more efficiently than in random sampling, but there is a risk of bias and the eventual results may simply 'prove' the assumptions.



In general, the stratification of the site was influenced by obvious features of the vegetation, such as the presence of conspicuous species or vegetation structure. These factors may be largely independent of the floristic make-up of the vegetation, and by definition the biological communities present. Sample plots were analysed by determining the dominant species in each plot, as well as any alien invasive species and potential SCC occurring within the plots. Each sample plot was sampled until no new species were recorded. Vegetation communities were then described according to the dominant species recorded from each type, and these were mapped and assigned a sensitivity score.

## 2.4 VEGETATION MAPPING

The revised SA VEGMAP (2018) maps “floristically-based vegetation units of South Africa, Lesotho and Swaziland at a greater level of detail than had been available before.” The map was developed using a wealth of data provided by a network of ecologists, biologists and conservation planners that make periodic contributions to the project. These contributions have allowed for the best national vegetation map to date, the last being that of Acocks developed over 50 years ago. The SA VEGMAP informs finer scale bioregional plans and includes an additional 47 new vegetation units since its refinement in 2012.

The SA VEGMAP is compared to actual conditions of vegetation observed onsite during the site assessment through mapping from satellite images, literature descriptions and related data gathered on the ground.

## 2.5 SPECIES OF CONSERVATION CONCERN

Data on the known distribution and conservation status for each potential species of conservation concern must be obtained to develop a list of ‘Species of Concern’. These species are those that may be impacted significantly by the proposed activity. In general, these will be species that are already known to be threatened or at risk, or those that have restricted distributions (endemics) with a portion (at least 50%) of their known range falling within the study area i.e. strict endemic and near endemic species. Species that are afforded special protection, notably those that are protected by NEMBA (No. 10 of 2004), PNCO (1975), the National Forest Act or which occur on the South African Red Data List as species of conservation concern fall within this category.

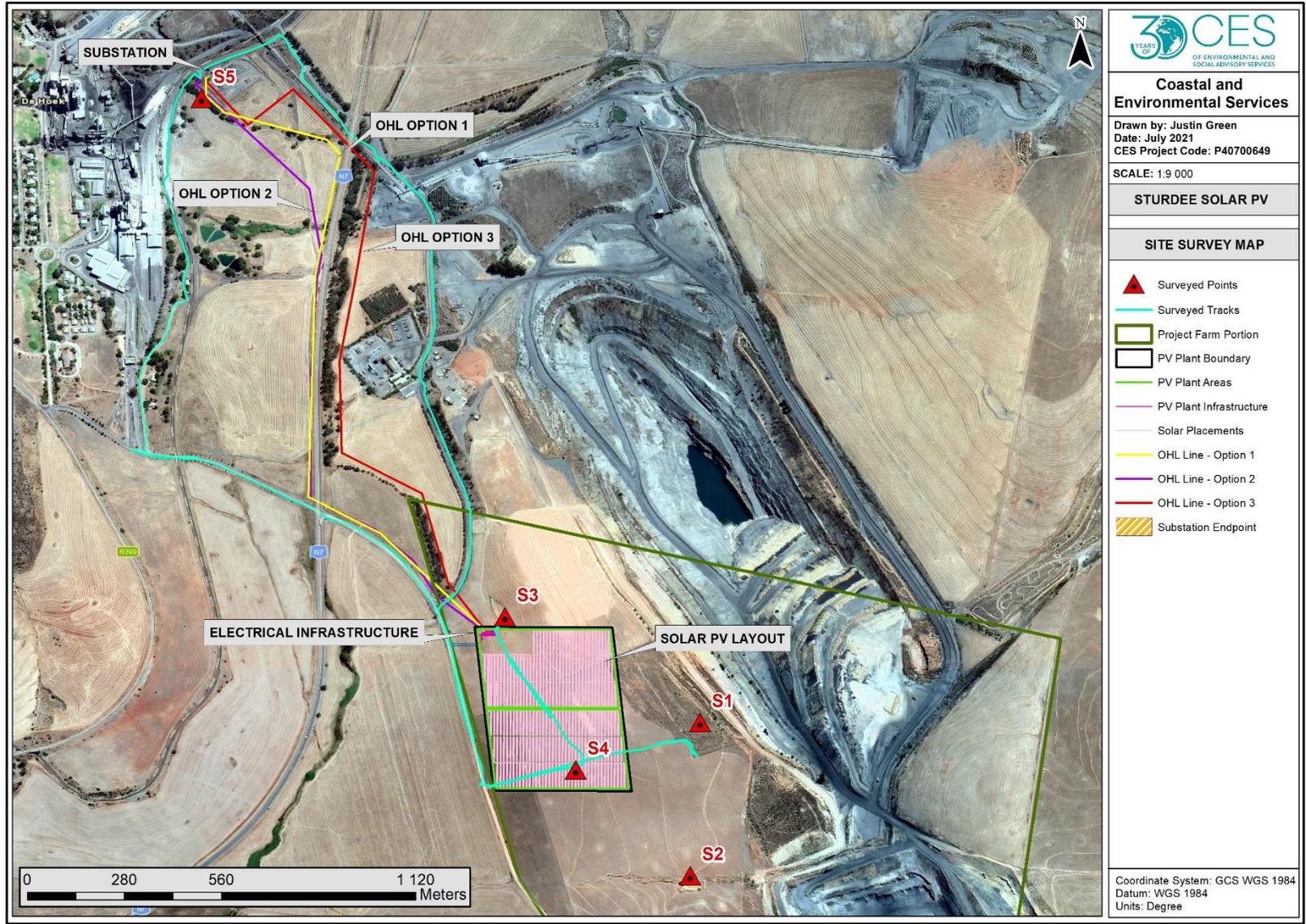


Figure 2-1: Map indicating the location of the sample sites that were assessed.



## 2.6 SENSITIVITY ASSESSMENT

The Species Environmental Assessment guideline (SANBI, 2020) was applied to assess the Site Ecological Importance (SEI) of the project area. The habitats and the species of conservation concern in the project area were assessed based on their conservation importance, functional integrity and receptor resilience (Table 2.1). The combination of these resulted in a rating of SEI and interpretation of mitigation requirements based on the ratings.

The sensitivity map was developed using available spatial planning tools as well as by applying the SEI sensitivity based on the field survey.

**Table 2-1: Criteria for establishing Site Ecological importance and description of criteria**

Criteria	Description
Conservation Importance (CI)	<i>The importance of a site for supporting biodiversity features of conservation concern present e.g. populations of IUCN Threatened and Near-Threatened species (CR, EN, VU &amp; NT), Rare, range-restricted species, globally significant populations of congregatory species, and areas of threatened ecosystem types, through predominantly natural processes.</i>
Functional Integrity (FI)	<i>A measure of the ecological condition of the impact receptor as determined by its remaining intact and functional area, its connectivity to other natural areas and the degree of current persistent ecological impacts.</i>
Biodiversity Importance (BI) is a function of Conservation Importance (CI) and the Functional Integrity (FI) of a receptor.	
Receptor Resilience (RR)	<i>The intrinsic capacity of the receptor to resist major damage from disturbance and/or to recover to its original state with limited or no human intervention.</i>
Site Ecological Importance (SEI) is a function of Biodiversity Importance (BI) and Receptor Resilience (RR)	

## 2.7 ASSUMPTIONS AND LIMITATIONS

This report is based on current available information and, as a result, the following limitations and assumptions are implicit:

- The report is based on a project description received from the client.
- A detailed faunal survey was not conducted. Although a site visit was undertaken, the faunal survey was mainly a desktop study, using information from available literature for the area. This data was supplemented by recording animal species that were observed during the site survey.
- Sampling could only be carried out at one stage in the annual or seasonal cycle. The survey was conducted in early autumn when most plants were at the end of the flowering stage. Early flowering species, specifically geophytes could therefore not be identified. However, the time available in the field, and information gathered during the survey was sufficient to provide enough information to determine the status of the affected area.



## 3. RESULTS

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### 3.1 VEGETATION CHARACTERISATION

According to the National Vegetation Map, the vegetation type within the study area is Swartland Shale Renosterveld. This vegetation type occurs within the Swartland and Boland regions of the Western Cape from Het Kruis in the north, southwards to Piketberg and Olifantsrivierberge, Moreesburg, Gouda, Hopefield, Riebeek-Kasteel, Klipheuwel, Philadelphia, Durbanville, Stellenbosch and Sir Lowry's Pass Village. Swartland Shale Renosterveld is characterised as moderately undulating plains and valleys with low to moderately tall long leaved shrubland as well as low open shrubland dominated by Renosterbos.

This vegetation type is listed as critically endangered with a conservation target of 26%. However, 90% of the area has been totally transformed and as such the target is unattainable.

#### 3.1.1 VEGETATION TYPES RECORDED AT THE SOLAR PV FACILITY

The field survey confirmed that the majority of the solar PV facility is located within a wheat field but that there is a small patch of degraded Swartland Shale Renosterveld that will be impacted by the north eastern corner of the facility (Figure 3-2 and Plates 3-1, 3-2 and 3-3). This patch of vegetation is approximately 5 ha in total, is located between the existing PPC mine and a wheat field and appears to be regularly disturbed as there are roads and a powerline within the northern section of the vegetation patch. Historical imagery indicates that these tracks have been present since at least 2011 (over 10 years).

The degraded shale renosterveld located between the existing mine and the wheat field is characterised by a woody shrub layer dominated by *Suaeda plumosa* and *Prosopis sp* (an alien invasive species) and a grass layer that could not be identified due to the timing of the survey. Given the degraded nature of this patch of vegetation, the likelihood that plant species of conservation concern occurring within this patch is low to moderate. However, despite the low conservation rating, this patch of vegetation acts as a refuge for small mammals and other faunal groups, and will act as a seed source which could be used during later rehabilitation of the mining operation. It is therefore important to protect and maintain remaining patches of vegetation in the otherwise very disturbed landscape, where feasible. Ideally the invasive *Prosopis sp.* should be removed.

The current layout indicates that 0.15 ha of the edge of this degraded shale renosterveld will be impacted by the solar PV plant. A sensitivity assessment of the vegetation patch has been included in chapter 4.

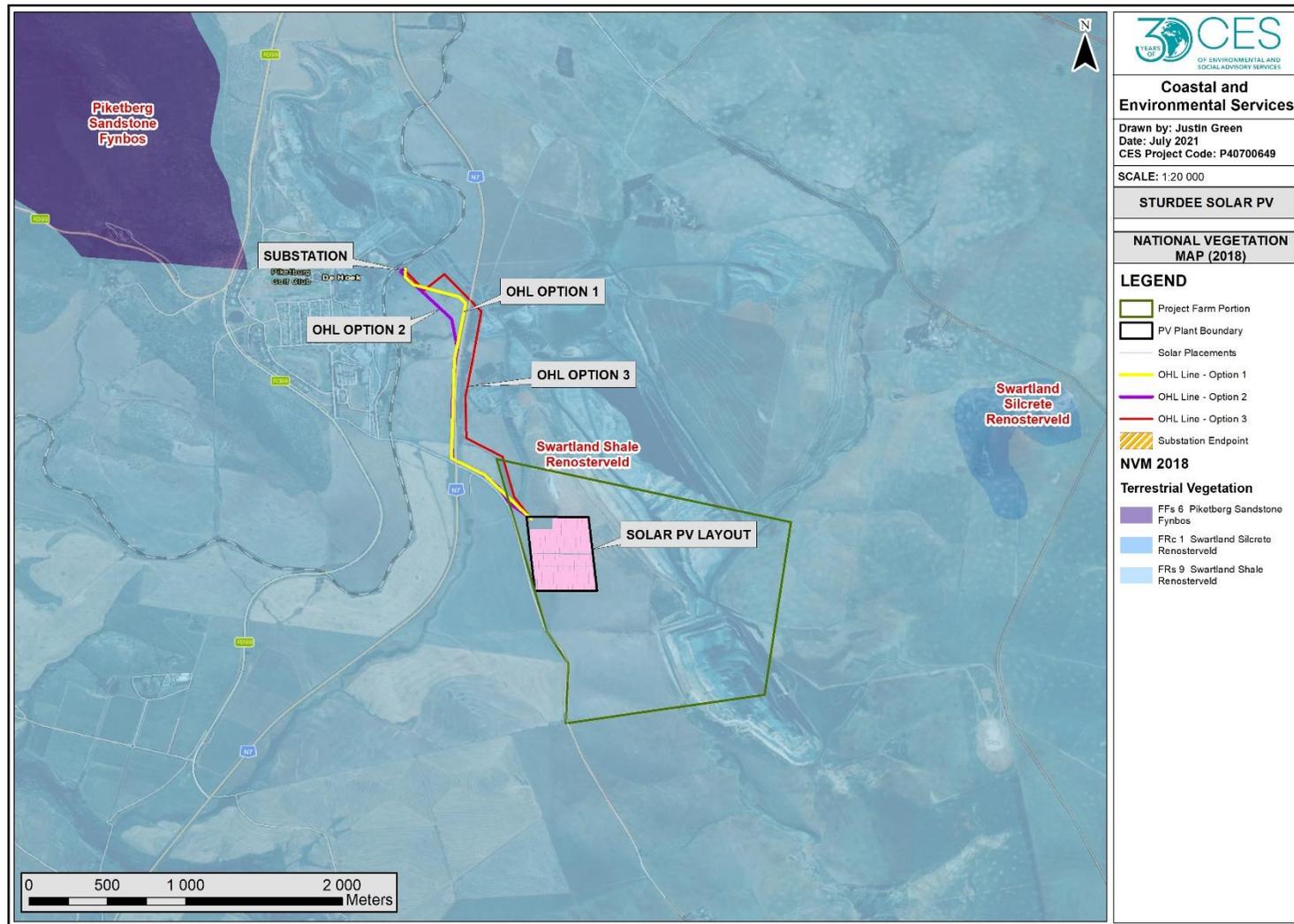


Figure 3-1: National Vegetation map showing that the site occurs within Swartland Shale renosterveld.

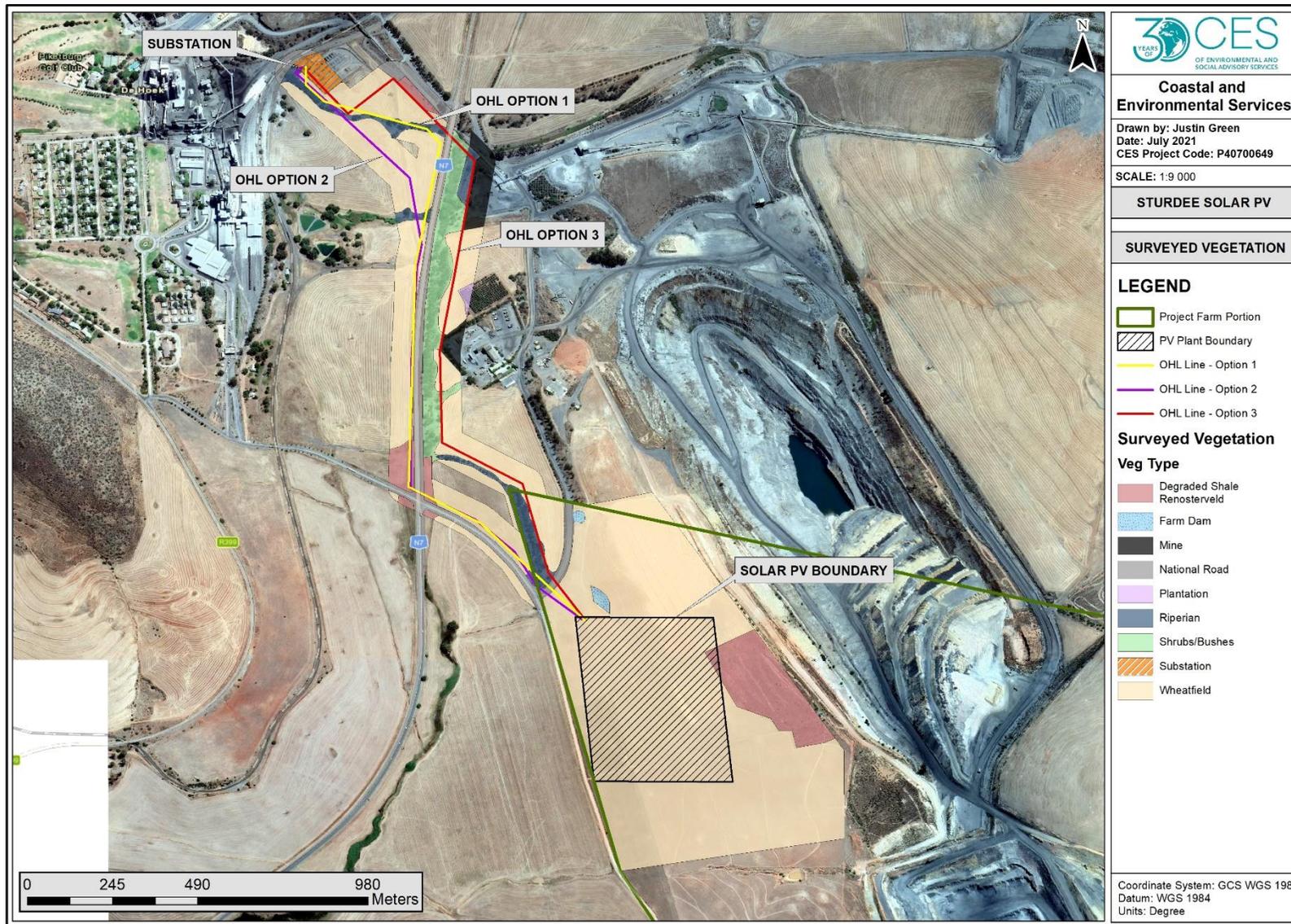


Figure 3-2: Vegetation types recorded within the solar PV site and along the powerline routes.



**Plate 3-1: Degraded shale renosterveld situated between the existing mine and wheat field and dominated by *Suaeda plumosa* and *Prosopis* sp.**



**Plate 3-2: Powerline traversing the degraded shale renosterveld situated between the existing mine and wheat field.**



**Plate 3-3: The project site is predominately a wheat field. Photograph taken from the middle of the site looking south.**

### 3.1.2 VEGETATION TYPES RECORDED ALONG THE TWO POWERLINE ALTERNATIVES

Overhead powerline options 1, 2 and 3 all traverse wheat fields from the solar PV plant to the N7. There are small patches (0.36 ha and 0.28 ha) of degraded shale renosterveld adjacent to the N7 where powerline options 1 and 2 cross the N7 (Figure 3-2). The patch that runs parallel to the N7 is degraded and already impacted by existing powerlines. Given the degraded nature of this patch of vegetation, the likelihood of plant species of conservation concern occurring within this patch is low.

Powerline option 3 (the preferred alternative) traverses wheat fields and runs adjacent to small patches of vegetation infested with exotic tree species. The likelihood of plant species of conservation concern occurring along this route is low.

## 3.2 SPECIES RECORDED ON SITE

Species diversity within the small patch of degraded Swartland Shale Renosterveld was low. Species recorded within the site have been included in Table 3-1. Grass species and annual herbs have gone undetected due to the timing of the site visit occurring outside of the flowering season.



Table 3-1: Dominant species recorded on site

Species	Conservation Status	Photograph
<i>Suaeda fruticosa</i>	Least Concern	
<i>Schinus molle</i>	Exotic species not listed as an alien invasive species.	



Species	Conservation Status	Photograph
<i>Prosopis sp.</i>	Category 1b invasive species	

### 3.3 FAUNA

The DFFE Screener does not identify any sensitive terrestrial vertebrate faunal species. A desktop assessment for reptiles, amphibians and mammals revealed that 44 reptile species, 14 amphibian and 78 mammal species have a distribution which includes the project area. Of these, one reptile species is of conservation concern (SCC), namely, the Speckled Dwarf Tortoise (*Chersobius signatus*) listed as Endangered. *C. signatus* is endemic to South Africa and Picketberg is considered the southernmost extent of its distribution range. It occurs in rocky terrain, sheltering under boulders, rock slabs and crevices. The nearest record of occurrence is near Citrusdal and none have been recorded within the QDS (3218DD) of the site (FitzPatrick Institute of African Ornithology, 2021, iNaturalist, 2021). Given the lack of rocky habitat this species is unlikely to occur onsite.



Two amphibian SCC the Cape Rain Frog (*Breviceps gibbosus*) (NT) and the Cape Dainty Frog (*Cacosternum capense*) (NT) are endemic to the Western Cape and have a distribution which includes the project area (IUCN, 2021; du Preez & Curruthers, 2017; SA-FRoG, 2016). *B. gibbosus* favours well-drained soils, slightly sloping ground and is found in both Renosterveld and urban gardens. None have been recorded within the QDS (3218DD) of the site and the nearest record to site is in Citrusdal (FitzPatrick Institute of African Ornithology, 2021, iNaturalist, 2021). Given the degraded state of the site it is considered unlikely that *B. gibbosus* will occur there.

*C. capense* prefers poorly drained clay or loamy soils with temporary rain-filled depressions, pans or cultivated land for breeding (du Preez & Curruthers, 2017). Two individuals have been recorded within the QDS (3218DD) of the site (FitzPatrick Institute of African Ornithology, 2021). It also however unlikely that this species occurs onsite due to the degraded nature of the site. If they were to occur they would be restricted to the temporary farm dams surrounding the site.

Although 78 mammal species have a distribution that includes the site only a few may use the site permanently and even then, only for foraging purposes. Of the five threatened and three near-threatened SCC that have a distribution which includes the site only the African Clawless Otter (*Aonyx capensis*) (NT) may use the drainage line bordering the site to shelter, forage and as a corridor. The only mammal species recorded on site was the Yellow Mongoose (*Cynictis penicillate*) that foraged on the fields and has a den in the degraded shale renosterveld area situated between the existing mine and wheat field (Plate 3-4). Bat-eared Foxes (*Otocyon megalotis*) were reported as occurring near site (pers. comms. Alistair Frieslaar).



Plate 3-4: Yellow Mongoose (*Cynictis penicillate*) den (32°57'14.02"S; 18°46'27.65"E)

### 3.4 INVERTEBRATES

The screener report identified four invertebrate species that could possibly occur within the site. Habitat preference for each of these species was examined and it was determined that, given that the majority of the site is a wheat field, with a small patch (5 ha) of degraded natural vegetation adjacent to the site, the likelihood of occurrence for all four species is low (Table 3.2).



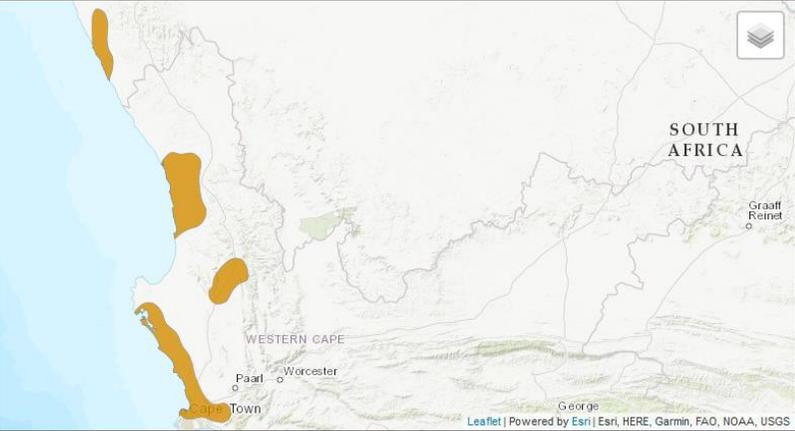
**Table 3.2: Table examining likelihood of occurrence of the four invertebrate species identified in the screener report.**

Scientific Name	Common Name	Habitat Preference	Likelihood of Occurrence
<i>Aneuryphymus montanus</i>	Yellow-winged Agile Grasshopper	<p>According to information available for this species on the IUCN website, this species is known from six localities in the Cape region and has an estimated extent of occurrence (EOO) of 170,000 km<sup>2</sup> with an area of occupancy of between 100 and 1000 km<sup>2</sup>.</p> <p>This species prefers cool, south-facing slopes and is associated with fynbos.</p> 	<p>No natural habitat occurs within the proposed solar PV plant site although there is a small patch of degraded shale renosterveld to the north east. Since there is very little indigenous vegetation and the vegetation that does remain is disturbed and appears to be continuously degraded, the likelihood that this species occurs on site is low. Additionally, there are no cool, south facing slopes within or directly adjacent to the site.</p>
<i>Brinckiella aptera</i>	Mute Winter Katydid	<p>This species occurs within a restricted range in the Northern and Western Cape Provinces. Evidence suggests that it feeds on flowers and leaves of a very narrow range of host plants and is associated with primarily low, herbaceous shrubs.</p>	<p>Given the transformed nature of the site (a wheat field) and the continually degraded state of the small pocket of remaining natural vegetation adjacent to the site, the likelihood of occurrence of this species within the site is low.</p>



<p><i>Pachysoma aesculapius</i></p>		<p>This species occurs within a small region of coastal sands in the southwest of the Western Cape Province. It's current EOO is estimated to be between 10,771-14,080 km<sup>2</sup>, with an area of occupancy of around 1,500 km<sup>2</sup>.</p> <p>This species is typically restricted to the <i>firm deep sand of coastal hummocks, river banks and vegetated dunes.</i></p>	<p>The habitat present at the site is not representative of coastal dunes and riverbanks and as such the likelihood of occurrence of this species within the site is low.</p>



<p><i>Bullacris obliqua</i></p>	<p>Bladder Grasshopper</p>	<p><i>Bullacris obliqua</i> is an endemic species to the west coast of South Africa, occurring in both the Western Cape and Northern Cape Provinces. It has a patchy distribution with an estimated EOO of ca 33,500 km<sup>2</sup> and AOO of between 100 and 3,000 km<sup>2</sup>.</p> <p>This species inhabits the Fynbos biome with <i>Eriocephalus africanus</i> being the only confirmed host plant for this species.</p> 	<p>No <i>Eriocephalus africanus</i> (the host plant) was recorded on or adjacent to the site and as such this species is unlikely to occur on site.</p>
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## 4. SENSITIVITY

### 4.1 SITE SENSITIVITY

Using the method described in section 2.6 above to assess site sensitivity, it was determined that the sensitivity for Degraded Swartland Shale Renosterveld is Low. Table 4.1 provides a summary of how each component was assessed.

**Table 4.1: Evaluation of Site Ecological Importance of habitat and SCC.**

Habitat / Species	Conservation Importance (CI)	Functional Integrity (FI)	Receptor Resilience	SEI
Degraded Swartland Shale Renosterveld	<b>High</b>	<b>Medium</b>	<b>High</b>	<b>Low</b>
	<p>This vegetation type is classified as Critically Endangered and is located adjacent to the solar PV Facility. It is estimated that &lt; 0.2ha will be impacted by the development. This area is degraded, has a low biodiversity with a high infestation of alien invasive species and has a low to moderate potential to support SCC.</p> <p>Using the threatened ecosystem of South Africa shape file, the area to be impacted is &lt;0.0.1% of the vegetation type. However, this layer includes areas that have already been transformed and therefore the vegetation patch is likely to be a larger percentage of what remains of Swartland Shale Renosterveld. Despite its level of degradation, the patch of vegetation has been assigned a CI of High.</p>	<p>&gt;5ha but &lt;20ha of degraded swartland shale renosterveld. Isolated patch with limited connectivity and several minor and major negative ecological impacts.</p>	<p>In this instance, receptor resilience of the vegetation type has been measured against how rapidly the habitat can recover to its existing state rather than to its original state.</p> <p>Given the degraded nature of the site which is dominated by <i>Prosopsis</i> sp and <i>Suaeda plumosa</i>, receptor resilience is given as high as the habitat is likely to recover within 5-10 years to restore &gt;70% of its original species composition.</p>	



## 4.2 BIODIVERSITY SPATIAL PLAN

The Western Cape Biodiversity Spatial Plan (WCBSP, 2017) maps biodiversity priority areas, including Critical Biodiversity Areas (CBAs) and Ecological Support Areas (ESAs) which require safeguarding to ensure the persistence of biodiversity and ecosystems functioning, through a systematic conservation planning process.

CBA's are defined as "areas of high biodiversity and ecological value and need to be kept in a natural or near-natural state, with no further loss of habitat or species" (WCBSP Handbook, 2017). The provided map distinguishes between CBA 1 areas, which are those that are likely to be in a natural condition, and CBA 2 areas, which are areas that are potentially degraded or represent secondary vegetation.

ESA's are "Areas that are not essential for meeting biodiversity targets, but that play an important role in supporting the functioning of Protected Areas (Pas) or CBAs, and are often vital for delivering ecosystem services. They support landscape connectivity, encompass the ecological infrastructure from which ecosystem goods and services flow, and strengthen resilience to climate change." ESA's should be maintained in a functional and natural state although some habitat loss may be acceptable. As with the CBAs, a distinction is made between ESA 1 that are areas in a natural, near natural or moderately degraded condition and ESA 2 which are degraded and need to be restored.

According to the WCBSP (2017), the footprint of the solar PV plant does not fall within a CBA, ESA or ONA. However, powerline options 1 and 2 run adjacent to a CBA and ESA along the northern section where it connects to the substation. The site visit indicated that this area is a drainage line planted with Peruvian Pepper Trees (*Schinus molle*) and transformed by agriculture. There was no indigenous vegetation within or adjacent to this area (Plate 4-1).

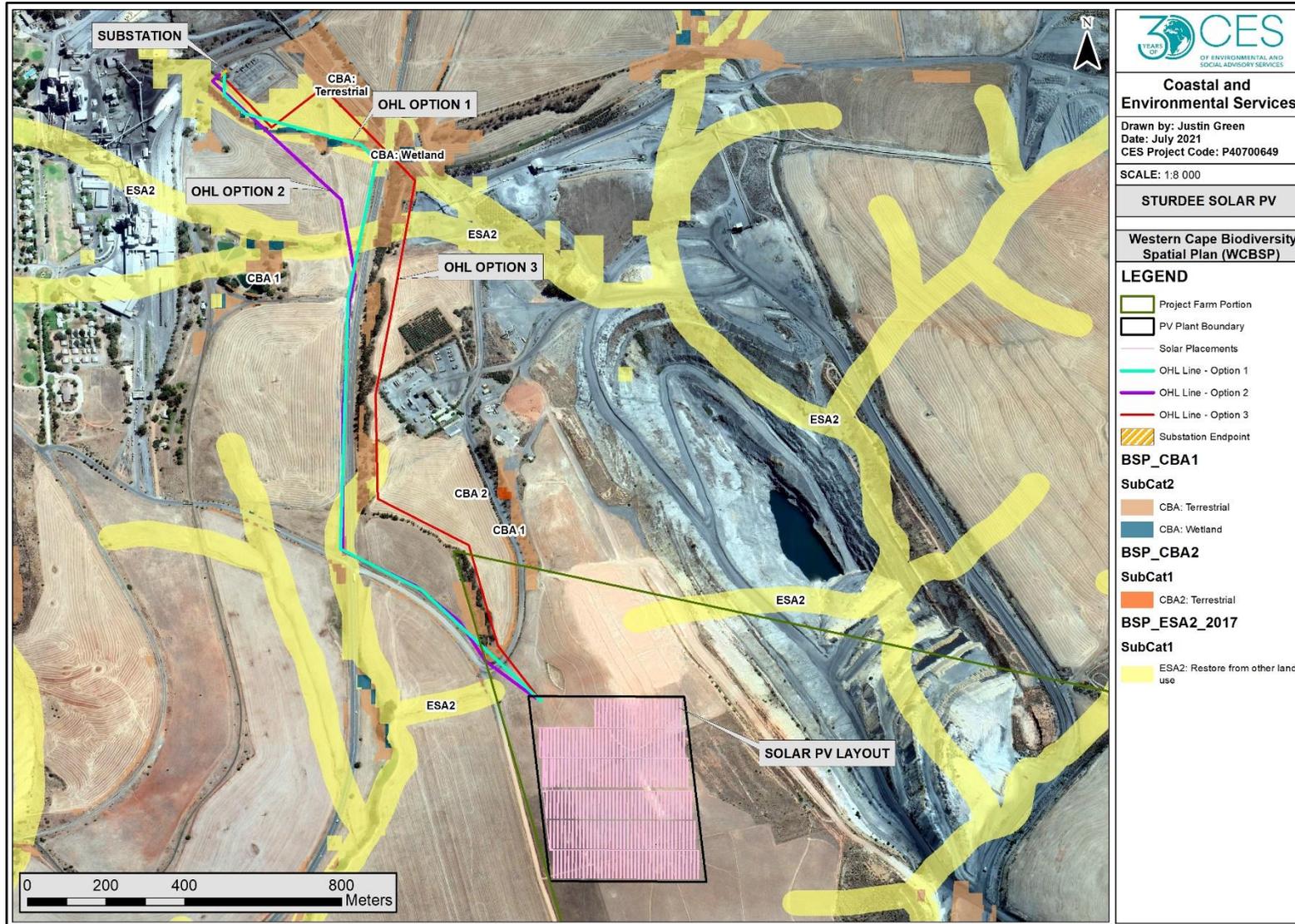
Powerline option 3 runs parallel to fragments of terrestrial CBA's. The fragment that the powerline traverses on the eastern side of the N7 in the north is degraded as a result of mining activities and comprised mostly of exotic tree species such as eucalyptus.



**Plate 4-1: Photograph taken of the powerline route where the CBA's and ESA's were identified by the WCBSP (2017). Photograph taken looking south east towards the N7. No indigenous vegetation is present.**



**Plate 4-2: Photograph taken of the drainage line designated as a CBA and ESA's as identified by the WCBSP (2017). Photograph taken looking north west towards the substation. No indigenous vegetation is present.**





## 5. PROPOSED MANAGEMENT ACTIONS

Although the majority of the impacted area is entirely transformed and the project will have little to no direct ecological impacts, there are three patches of degraded shale renosterveld that need to be managed. As such the following management actions are recommended:

- An alien invasive management plan must be implemented to ensure that no further spread of *Prosopis* (Category 1b) occurs and that this species and all other alien invasive species that may occur within the site are controlled.
- The patch of degraded shale renosterveld was assigned a low sensitivity. It is therefore recommended that it is demarcated as a no-go area and no laydown areas, access roads or other project activities must occur within this area during either the construction or operational phase, with the exception of the designated 925m<sup>2</sup> patch as indicated in the layout plan.
- It is recommended that an additional buffer area of at least 50m be placed around the remnant patch of vegetation to avoid impacting on and encroachment into the degraded shale renosterveld patch, with the exception of the 925m<sup>2</sup> area designated in the site layout plan. No activity, construction, laydown areas or roads may occur outside the area demarcated in the site layout plan, the area to the east beyond this is considered a no-go area.
- During the operational phase, Sturdee Energy and PPC need to take responsibility for the rehabilitation and restoration of all remaining patches of degraded shale renosterveld. Despite their low conservation value, they still have important ecological functions in this very transformed landscape.
- If the OHL options 1 or 2 are chosen as the preferred alternative, the pylons must be placed in such a way as to minimise the impact on the degraded shale renosterveld along the N7.
- Night lighting must be kept to a minimum and any lighting required must be low light emitting (LEDs) and point down (down lighting).
- All fences must allow for the movement of small animals through the site.
- All cleaning products used to clean solar panels must be biodegradable as they are likely to enter the stream downslope to the east of the site.
- Any fauna sighted by the ECO during construction must be recorded (photographed and GPS location) and uploaded onto iNaturalist.
- No fauna must be killed during construction and operation by developers' staff and subcontractors, a designated staff member must be responsible for removing individuals that may be harmed within the construction footprint to just outside of the footprint.
- Construction should preferably be outside of October-January to allow for Mongoose gestation and rearing of young.



## 6. CONCLUSION

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This compliance statement is applicable to the study area described under section 1.1 and within the BAR documentation.

The project site is considered to be of low sensitivity for plants, invertebrates, reptiles, amphibians and mammals due to the transformed nature of the site<sup>1</sup>. As such the proposed development will have a low to negligible impact on the ecology of the site and will not impact any plant, invertebrate, reptile, amphibian or mammal species of conservation concern.

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<sup>1</sup> Please note that birds have been assessed separately by a bird specialist



## 7. REFERENCES

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