

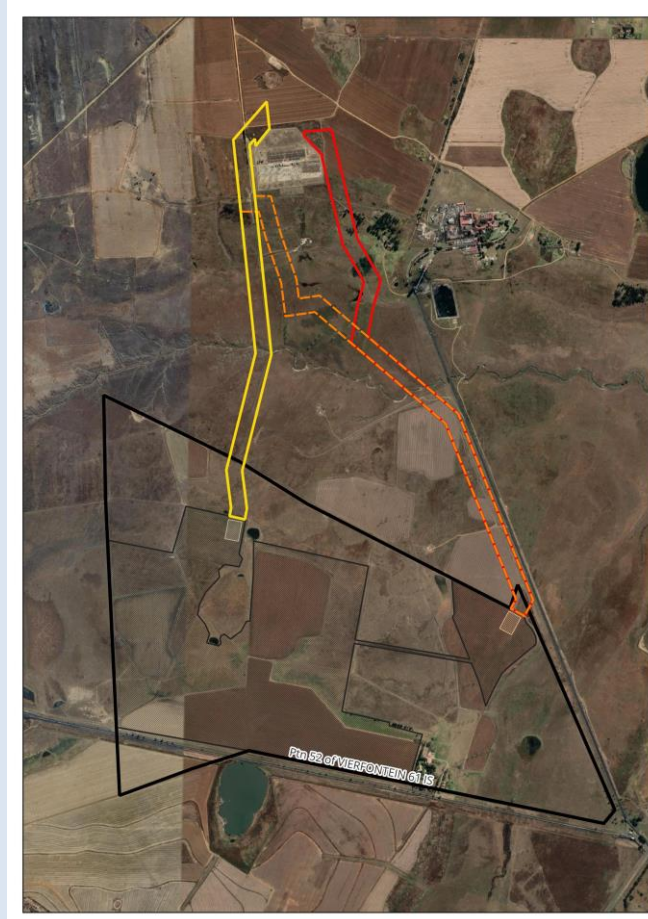
APRIL 2024

BACKGROUND INFORMATION DOCUMENT

FOR THE PROPOSED:

**RENEWABLE ENERGY GENERATION PROJECT (PHOTOVOLTAIC PLANT)
ON PORTION 52 OF THE FARM VIERFONTEIN 61 IS, AND 132KV POWERLINE,
LOCATED WITHIN THE EMALAHLENI LOCAL MUNICIPALITY, NKANGALA
DISTRICT MUNICIPALITY, MPUMALANGA PROVINCE**

Short name: Vierfontein Solar Park



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LIST OF ACRONYMS AND ABBREVIATIONS	
AC	Alternate Current
BESS	Battery Energy Storage Systems
BID	Background Information Document
CBAs	Critical Biodiversity Areas
DC	Direct Current
DFFE	Department of Environment, Forestry and Fisheries
DMRE	Department of Mineral Resources and Energy
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
Exigent	Exigent Engineering Consultants cc
GIPPPP	Gas Independent Power Producer Procurement Programme
GNR	Government Notice Regulation
I&AP's	Interested and Affected Parties
IPP(s)	Independent Power Producer(s)
NEMA	National Environmental Management Act (No. 107 of 1998)
NEMPAA	National Environmental Management: Protected Areas Act (Act 57 of 2003)
NEM: ICMA	National Environmental Management: Integrated Coastal Management Act (Act 24 of 2008)
NWA	National Water Act (No. 36 of 1998)
NFEPA	National Freshwater Ecosystems Priority Areas
PPP	Public Participation Process
PV	Photovoltaic
SACAD	South Africa Conservation Areas Database
SAPAD	South Africa Protected Areas Database
SEMA	Specific Environmental Management Act
WUL	Water Use License

1. INTRODUCTION

The total demand for electricity in South Africa is not constant; rather it varies on a 24-hour basis, with peak demand in the early morning and the late afternoon/early evening. Similarly, it varies on a weekly basis, with the demand during the working week being higher than over weekends. The demand in winter, in most areas, is also higher than in summer periods. To optimally meet the total demand, it is thus necessary to have both “base load electricity generating power stations¹” as well as “peaking electricity generating power stations²”. This is achieved by harnessing different energy sources and applying different technologies. The technologies differ markedly in their generation costs, performance and utilisation characteristics, their suitability for the South African environment and their state of commercial development. The choice of generation technology is thus multi-faceted and complex and is conducted prior to making a final decision on the specific technology built.

Exigent Engineering Consultants cc (hereafter referred to as **Exigent**) has been appointed by **Alwaid Energy (Pty) Ltd** (Reg. No: 2024/019050/07) as the Environmental Assessment Practitioner (EAP) to undertake the Environmental Impact Assessment (EIA) for a proposed energy generation facility, i.e. a Photovoltaic Power Plant with associated infrastructure and structures on Portion 52 of the Farm Vierfontein 61 IS (504.3897 ha), within the Emalahleni Local Municipality, Nkangala District Municipality, Mpumalanga province.

The renewable energy generation facility will be a Photovoltaic (PV) Power Plant with a maximum generation capacity of up to 140 MW at the point of connection (Maximum Export Capacity). The footprint (fenced area) of the proposed development is approximately 240 ha in extent.

This report has been compiled to provide the National Department of Forestry, Fishery and Environment (DFFE) and the I&APs background information to the project prior to the submission of the project application. The aim of this document is to identify the key features and possible impacts associated with the relevant location, as well as to provide insights into the applicable legislation regarding the proposed project.

2. PURPOSE OF THIS DOCUMENT

The main purposes of this background information document are:

- To provide information about the proposed project
- To explain the EIA process
- To provide an opportunity for participation in the EIA process

This document also indicates how you can receive information, or raise issues, which may be of concern and/or interest for interested and/or affected parties (I&AP's). The sharing of information forms the basis of the public participation process (PPP) and offers you the opportunity to become actively involved in the project from the outset. Public participation plays an important role in the undertaking of an EIA process, as input from I&AP's ensures all potential issues are considered within the assessment of the project.

3. PROJECT LOCATION

The proposed project sites are located within the Emalahleni Renewable Energy Development Zone 9 (also known as “Emalahleni REDZ”), published under Government Notice Regulations (GNR) 114 in Government Gazette (GG) No. 41445 of 16 February 2018, in terms of Section 24(3) of the National Environmental Management Act (NEMA),

¹ "Base load electricity generating capacity" refers to power station technology designed specifically to generate electricity continuously for all hours.

² "Peaking electricity generating capacity" refers to power station technology designed specifically to generate electricity during periods of very high demand for electricity, normally on weekdays from 06:00 to 09:00 and 17:00 to 20:00.

Act 107 of 1998. Large scale solar PV energy facilities located within this REDZ are subject to a Basic Assessment (BA) Process in terms of the EIA Regulations of 2014, as amended, published under the NEMA (Act 107 of 1998).

3.1. Project Site and development area

The project site is located 40 km South-West of the town of Emalahleni, 17 km North-West of the town of Kriel, 6 km North-West of the Matla Power Station, 5 km South-West of the Kriel Mine and 3 km South of the Eskom “Kruispunt” Main Transmission Substation and the Matla Coal 2, in the Mpumalanga Province.

The renewable energy generation facility will be a Photovoltaic (PV) Power Plant with a maximum generation capacity of up to 140 MW at the point of connection (Maximum Export Capacity).

Access to the Vierfontein Solar Park will be from the unnamed mine road towards Matla 3 Coal Mine, which runs parallel to the southern boundary of the project site.

Site location - Surveyor-general 21-digit site code:

Portion 52 of the Farm VIERFONTEIN 61 IS (504.3897 ha)

T	0	I	S	0	0	0	0	0	0	0	0	0	6	1	0	0	0	5	2
1	2		3			4				5									

3.2. Vierfontein 132kV powerline,

The **Vierfontein 132kV powerline**, connecting the Vierfontein Solar Park to the Eskom “Kruispunt” Main Transmission Substation, may cross the following properties, depending on the selected connection alternative:

1. **Powerline Study Corridor, Alternative 1 ±3.7 km long:**
 - Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
 - Portions 26 and 53 of the Farm VIERFONTEIN 61 IS (EXXARO);
 - Portion 12 (Remaining Extent) of the Farm RIETVLEI 62 IS (EXXARO);
 - Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom).
2. **Powerline Study Corridor, Alternative 2 ±4.3 km long:**
 - Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
 - Portions 26 and 53 of the Farm VIERFONTEIN 61 IS (EXXARO);
 - Portion 12 (Remaining Extent) of the Farm RIETVLEI 62 IS (EXXARO);
 - Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom);
 - Remainder of the Farm NASMANUS 132 IS (Eskom).
3. **Powerline Study Corridor, Alternative 3 ±2.9 km long:**
 - Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
 - Remainder of the Farm NASMANUS 132 IS (Eskom);
 - Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom).

Properties potentially crossed by the **Vierfontein 132kV Powerline** - Surveyor-general 21-digit site code:

T	0	I	S	0	0	0	0	0	0	0	0	0	6	1	0	0	0	5	2
T	0	I	S	0	0	0	0	0	0	0	0	0	6	1	0	0	0	2	6
T	0	I	S	0	0	0	0	0	0	0	0	0	6	1	0	0	0	5	3

T	0	I	S	0	0	0	0	0	0	0	0	0	6	2	0	0	0	1	2
T	0	I	S	0	0	0	0	0	0	0	0	0	6	2	0	0	0	1	4
T	0	I	S	0	0	0	0	0	0	0	0	0	6	2	0	0	0	1	5
T	0	I	S	0	0	0	0	0	0	0	0	1	3	2	0	0	0	0	0
1	2			3			4						5						

4. KEY FEATURES OF THE PROPOSED PROJECT

Technical details of the proposed facility	
Component	Description/Dimensions
Technology	Solar Photovoltaic
Capacity of the facility	Maximum Export Capacity (@ the point of connection): up to 140 MW Installed power capacity - DC side (PV modules): up to 184 MWp Installed power capacity - AC side (inverters): up to 160 MW
Height of PV structures	1.0 - 4.5 m above ground
Surface area to be covered (including associated infrastructure like roads)	Project footprint / fenced area is up to 240 ha . Surface area (within the project footprint) covered by PV modules, internal roads, MV stations, HV substation and BESS is up to 120 ha (cover ratio up to 0.5)
Area occupied by both permanent and construction laydown areas	Project footprint / fenced area is up to 240 ha . Surface area (within the project footprint) covered by PV modules, internal roads, MV stations, HV substation and BESS is up to 120 ha (cover ratio up to 0.5) The construction camp (temporary) will be up to 10 ha in extent, within the project footprint, and will correspond to the area used for the BESS.
Number of inverters required	Each Medium voltage station will be equipped with DC/AC inverters that convert Direct Current (DC) into Alternate Current (AC) at a low voltage (typically 600 V). There will be 40 medium voltage stations of 4.0 MW each throughout the proposed development. PV technology is in constant and rapid evolution, this means that the final choice of the type (e.g. central inverters or string inverters) and model of inverter can be taken at the time of the commission date, on the basis of the availability of inverters of the worldwide market and of the cost-efficiency curve. In any case, the total installed capacity of the inverters (AC side) will be up to 184 MWac.
Area occupied by inverter/transformer stations/substations	There will be 40 medium voltage stations throughout the proposed development. Each will have an area of approximately 30 m ² . Therefore, the combined area of the medium voltage stations will be 1200 m ² .
Control rooms	The substation and switching station will be equipped with 2 control rooms. The control rooms will have a length of 30 m and a width of 11 m. Therefore, each of the control room will have an area of 330 m ² : 660 m ² in total.
Workshops/Warehouses	Three warehouses / workshops will be constructed within close proximity to the on-site substation and switching station. The three warehouses will have an area of approximately 300 m ² each: 900 m ² in total.
On-site substation	The on-site 22kV (or 33kV)/132kV step-up substation and 132kV switching station will host two 300 MVA 22kV (or 33kV)/132kV

	transformers (one as spare). On-site substation and switching station occupy a footprint of approx. 11,250 m ² . This area includes the control buildings.
Areas occupied by buildings	<p>Medium-voltage stations occupy a footprint of 1200 m².</p> <p>On-site substation and switching station occupy a footprint of approx. 11,250 m². This area includes the control buildings.</p> <p>Workshops & Warehouses occupy a footprint of approx. 300 m² each. In total, 3 warehouses are foreseen: 900 m² in total.</p> <p>Therefore, the total area occupied by buildings (MV stations, HV substation, Workshop & Warehouse) amounts to approx. 13,350 m² (1.3 ha).</p> <p>The Battery Energy Storage Systems (BESS) will be located in the area where the camp site will be for the purpose of the construction phase. This area will be approximately 10 ha in size.</p>
Number of 132kV powerlines	<p>1 (one) overhead 132kV powerline (double circuit) (the “Vierfontein 132 kV Powerline”), connecting the on-site substation & switching station to the Eskom “Kruispunt” Main Transmission Substation:</p> <p>Connection Alternative 1, powerline 3.7 km long</p> <p>Connection Alternative 2, powerline 4.3 km long</p> <p>Connection Alternative 2, powerline 2.9 km long</p>
Voltage of overhead power line	132 kV
Servitude of overhead powerline	36 m (18 m from each side of the center line)
Height of the overhead powerline	up to 25 m above the ground level
Type of structures of powerline	Steel monopole (double circuit)
Battery Energy Storage System (BESS)	Battery Energy Storage System (BESS) of 140 MW / 840 MWh (6-hour storage), with a footprint up to 10 ha within the Project footprint / fenced area
Access road	Access to the development area will be from the unnamed mine road towards Matla 3 Coal Mine , which runs parallel to the southern boundary of the project site.
Length of internal roads	Approximately 30,000 m
Width of internal roads	<p>Up to 8.0 m, with a road reserve up to 13.5 m</p> <p>During construction phase, access point from the unnamed mine road towards Matla 3 Coal Mine, and some of the internal roads, will have a road reserve wider than 13.5 m (up to 16.0 m) to allow the transportation of abnormal goods (e.g. power transformers, etc.).</p>
Height of fencing	3.0 m
Type of fencing	Wire mesh fencing with video-surveillance system

4.1. Project description

The project envisages the establishment of a solar power plant with a maximum generation capacity at the delivery point (Maximum Export Capacity) of up to 140 MW. The construction timeframe is estimated to be approximately 18 months.

The preferred technical solutions envisage:

- mono/polycrystalline PV modules, mono or bi-facial.
- fixed mounting systems or horizontal 1-axis trackers.

The estimated annual energy production is calculated in approximately:

- 2,100 kWh/kWp/year (load factor = 0.240), in the case of bi-facial PV modules mounted on fixed mounting systems (Alternative 1); or
- 2,450 kWh/kWp/year (load factor = 0.280) in the case of bi-facial PV modules mounted on trackers (Alternative 2, Preferred).

Therefore, the Vierfontein Solar Park will generate:

- 386.4 GWh per year in the case of PV modules mounted on fixed mounting systems; or
- 450.8 GWh per year in the case of PV modules mounted on trackers (preferred option).

The Global Horizontal Irradiation (GHI) of the site is 2,016 kWh/m²/year (source: <https://solargis.info/imaps/>). The energy generated by the Vierfontein Solar Park will reduce the quantity of pollutants and greenhouse gases emitted into the atmosphere. The reduced amount of CO₂ will be the emissions that would have been generated by a thermal power plant using fossil fuels to produce the same quantity of energy that is produced by the Vierfontein Solar Park.

The quantity of the avoided CO₂ is calculated as follows: the energy produced by the Vierfontein Solar Park (up to 386.4 GWh/y or 450.8 GWh/y) is multiplied by the Electricity Grid Emission Factor which is 1.058 t CO₂/MWh (source: Eskom, 2021 Carbon Footprint Report). This means that, in the case of Vierfontein Solar Park, the avoided CO₂ emissions are approximately 365,132 tons of CO₂ per year in the case of PV modules mounted on fixed mounting systems, or 425,987 tons of CO₂ per year in the case of PV modules mounted on trackers.

Considering that 1 kg of coal generates approximately 3.7 kWh (supposing a caloric value of 8000 kcal/kg and a coal plant efficiency of 40%), the coal saved by the Vierfontein Solar Park will be approximately 104,432 tons of coal / year in the case of PV modules mounted on fixed mounting systems, or 121,838 tons of coal / year in the case of PV modules mounted on trackers. The detailed description of the characteristic and functioning of the PV plant and its connection is given in the following paragraphs.

4.2. Connection infrastructure

Vierfontein Solar Park is planned to be connected to the Eskom “Kruispunt” Main Transmission Substation via a new 132 kV power line from 2.9 km to 4.3 km long, depending on the final alignment. The new powerline (double circuit) will consist of a series of steel or aluminium monopole structures to be installed approximately 200 – 260 m apart, with supporting electrical cables. The proposed structures will be between 18 m and 25 m high and the basement of each pole will have a footprint of approximately 0.6 m².

The construction phase of the powerline will last approximately 5 months and will involve a team of 10 to 15 people. Monopole structures installation will not require the establishment of a permanent construction site, but will be done step-by-step, to only affect small stretches of corridor and for a short time.

An access road (dirt road), approximately 4.0 m wide, may be constructed within the power line servitude, for construction and maintenance activities. In correspondence with the turning points, the road reserve will be up to 14 m in order to allow the transportation of abnormal loads (steel monopoles).

Site preparation will consist of the clearing of the powerline servitude and vegetation removal will be done only within the servitude, for the minimum width required by the installation activities and by the Eskom security rules. Vegetation should not interfere with the high-voltage cables.

The proposed 132 kV powerline (double circuit) may be built by Alwaid Energy (Pty) Ltd and/or Eskom but will be owned and operated by Eskom Distribution. This will depend on the Eskom grid code in relation to the IPP's (Independent Power Producers) and on the Connection Agreement to be finalized prior to or simultaneously with the conclusion of the PPA (Power Purchase Agreement) in respect of the options of retaining ownership of the connection works once completed.

The following properties fall within the Powerline Study Corridor and may be crossed by the proposed 132 kV powerline, depending on the final alignment:

Powerline Study Corridor, Alternative 1 ±3.7 km long:

- Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
- Portions 26 and 53 of the Farm VIERFONTEIN 61 IS (EXXARO);
- Portion 12 (Remaining Extent) of the Farm RIETVLEI 62 IS (EXXARO);
- Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom).

Powerline Study Corridor, Alternative 2 ±4.3 km long:

- Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
- Portions 26 and 53 of the Farm VIERFONTEIN 61 IS (EXXARO);
- Portion 12 (Remaining Extent) of the Farm RIETVLEI 62 IS (EXXARO);
- Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom);
- Remainder of the Farm NASMANUS 132 IS (Eskom).

Powerline Study Corridor, Alternative 3 ±2.9 km long:

- Portion 52 of the Farm VIERFONTEIN 61 IS (project site);
- Remainder of the Farm NASMANUS 132 IS (Eskom);
- Portions 14 and 15 of the Farm RIETVLEI 62 IS (Eskom).

5. SPECIALIST STUDIES

Apart from environmental screening, numerous specialist investigations have informed the design criteria to date for the proposed infrastructure development. These include:

- Agricultural Assessment;
- Avifauna Assessment;
- Aquatic Assessment
- Geohydrological Assessment;

- Geotechnical Assessment (for Phase 1);
- Heritage & Palaeontological Assessment;
- Noise Assessment;
- Socio-economic Assessment;
- Stormwater Management & Flood Risk Assessment;
- Terrestrial Ecology & Wetland Biodiversity Assessment;
- Traffic Assessment (for the construction phase);
- Visual Assessment.

The DFFE or other stakeholders may require additional specialists' studies if necessary. Specialist studies will be conducted in order to identify all potentially significant impacts. These impacts will be all analysed singularly and cumulatively in order to exclude the risk of fatal flaws and potential threats, if any, as well as to recommend adequate and effective mitigation measures.

The Draft and Final Basic Assessment Reports will highlight areas that should be avoided in order to limit potential impacts, and will recommend the most favourable alternatives for the Vierfontein Solar Park and the associated infrastructure and structures.

The PPP will provide valuable information in the identification of further issues which may require further and specific investigation and analysis during the EIA process.

Exigent will give response to all comments and queries received from I&AP's and will carefully consider and evaluate all issues raised with the aim of assessing all potential impacts.

6. LISTED ACTIVITIES

The EIA Regulations published on 4 December 2014, as amended (Government Notice Regulation [GNR] 326) under section 24(5) and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (new EIA Regulations 2014) potentially triggered by the proposed development are indicated in the table below.

Listing Notice and Activity of the EIA Regulations, 2014 as amended	Description of the activity
Listing Notice 1 of 2014, as amended (GNR 327)	
<p>GN R.983, Item 11 (i) The development of facilities or infrastructure for the transmission and distribution of electricity - (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts.</p>	<p>The Vierfontein Solar Park will entail the construction and operation of:</p> <ul style="list-style-type: none"> • an on-site 22kV/132kV step-up substation, equipped with high-voltage power transformers, stepping up the voltage from 22 kV (or 33kV) to 132kV, and one 132kV busbar with metering and protection devices (switching station); • one 132 kV power line (double circuit), approximately 2.9 to 4.3 km long (depending on the selected connection alternative) connecting the on-site substation & switching station to the Eskom “Kruispunt” Main Transmission Substation. <p>The connection may entail the extension of the 132 kV busbar of the Eskom “Kruispunt” Main Transmission Substation for the establishment of new 132kV bus-bays, according to Eskom’s connection requirements/solution.</p> <p>The connection infrastructure is located outside urban areas or industrial complexes.</p>
<p>GN R.983, Item 12 (ii)(c) The development of – (ii) infrastructure or structures with a physical footprint of 100sq.m. or more (c) within 32m of a watercourse, measured from the edge of a watercourse</p>	<p>The proposed Vierfontein 132kV Powerline will intercept wetlands that have been identified as per the delineation of the appointed wetland specialist. The interception of these wetlands entails, during the construction phase, the removal of vegetation from an area bigger than 100 m².</p>
<p>GN R.983, Item 19 The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse</p>	<p>The proposed Vierfontein 132kV Powerline will cross drainage lines that have been identified as per the delineation of the appointed wetland specialist. The interception of these drainage line entails, during the construction phase, the movement of soil for a volume of more than 10 m³.</p>
<p>GN R.983, Item 24 (ii) The development of - (ii) a road with a reserve wider than 13,5m, or where no reserve exists where the road is wider than 8m</p>	<p>During construction phase, some of the internal roads will have a road reserve wider than 13.5 m (up to 16.0 m) to allow the transportation of abnormal goods (e.g. power transformers, etc.).</p>
<p>GN R.983, Item 28 (ii) Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture or afforestation on or after 01 April 1998 and where such development: (ii) will occur outside an urban area, where the total land to be developed is bigger than 1 ha</p>	<p>The Vierfontein Solar Park can be regarded as an industrial development, where the total area to be transformed (footprint) will be bigger than 1 ha (up to 240 ha). The project site is currently being used for livestock grazing and agriculture.</p>
Listing Notice 2 of 2014, as amended (GNR 325)	
<p>GN R.984, Item 1 The development of facilities or infrastructure for the generation of electricity from a renewable resource</p>	<p>The proposed Vierfontein Solar Park consists of the construction, operation and maintenance of a Photovoltaic (PV) Power Plant with a maximum generation and storage capacity up to 140 MW at the point of connection (Maximum Export Capacity).</p>

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<p>where the electricity output is 20 MW or more, excluding where such development of facilities or infrastructure is for photovoltaic installations and occurs within an urban area.</p>	<p>The proposed solar photovoltaic facility, as well as the associated on-site high-voltage substation and Battery Energy Storage System (BESS), will be located outside urban areas.</p>
<p>GN R.984, Item 15 The clearance of an area of 20 ha or more of indigenous vegetation</p>	<p>The construction of the Vierfontein Solar Park will require clearance of indigenous vegetation for a portion of approximately 136 ha. The footprint of the PV plant will be up to 240 ha, where a portion of 136 ha consists of indigenous vegetation and 84 ha consist of croplands.</p>
<p>Listing Notice 3 of 2014, as amended (GNR 324)</p>	
<p>GN R.985, Item 4(i)(ee) The development of a road wider than 4 meters with a reserve less than 13,5 meters, within, (i) Outside urban areas: ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans. .</p>	<p>Multiple internal roads will be constructed for the purpose of servicing the solar park. Widths of the proposed internal roads are approximately 8 m. Some of the internal roads will have a reserve wider than 13.5 m to allow the transportation of abnormal goods (e.g. power transformers, etc.). The proposed development area and connection infrastructure is located on CBA..</p>
<p>GN R.985, Item 12(f)(ii) The clearance of an area of 300 m² or more of indigenous vegetation: (f) Mpumalanga: (ii) Within critical biodiversity areas identified in bioregional plans</p>	<p>A portion (4650 m²) of the PV plant footprint / development area and a section (213 m long) of the Vierfontein 132kV Powerline will affect an area of indigenous vegetation in Critical Biodiversity areas identified in the Mpumalanga Biodiversity Conservation Plan.</p>
<p>GN R.985, Item 14(ii)(f)(i) The development of – (ii) infrastructure or structures with a physical footprint of 10 square metres or more, where such development occurs – (a) within a watercourse. (f) Mpumalanga (i) Outside urban areas. (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.</p>	<p>The proposed development area of the Vierfontein Solar Park and connection infrastructure is located in a CBA in Mpumalanga Province</p>

7. RELEVANT DATA USED / BIBLIOGRAPHY

The following data sets were used in order to obtain the relevant maps and substantial information:

- *NFEPA 2011;*
- *Wetveg, Wetlands, Rivers and WMA (Water Management Areas)*
- *NEMPAA 2021;*
- *Mucina and Rutherford 2006 (Vegetation of SA);*
- *NBA 2018 Ecosystem threat data (in consultation with the NEMBA Protected Ecosystem List, 2011),*
- *DWA Quaternary Catchments;*
- *Department of Agriculture and Rural Development's Geo-Information data;*
- *Demarcation board- Boundary data;*
- *South Africa Protected Areas Database (SAPAD) and the South Africa Conservation Areas Database (SACAD);* and

8. POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED WITH THE PROPOSED PROJECT

A series of preliminary significant environmental issues and potential environmental impacts are currently being investigated and evaluated in terms of the severity, duration, extent, frequency and probability during the construction and the operational phases. The methods to be used are internationally recognised and based on facts, experience and expert opinions.

The following preliminary issues and potential impacts are being evaluated during the EIA process:

- Impacts on vegetation and fauna;
- Impacts on avifauna;
- Impacts on the agricultural potential of the soils;
- Geological, soil and erosion impacts;
- Impacts on heritage and palaeontological resources;
- Impact on water quantity and quality;
- Impact on climate change;
- Noise impact;
- Visual impact;
- Traffic impact;
- Social and economic impacts.

9. PUBLIC PARTICIPATION PROCESS

Public Participation is any process that involves the public in problem solving or decision-making and forms an integral part of the BA. The PPP provides people who may be affected by the proposed development, with an opportunity to provide comments and to raise issues of concern, or to make suggestions that may result in enhanced benefits for the project.

Comments and issues raised during the PPP will be captured, evaluated and included in a Comments and Response Report, which will be incorporated into the draft BAR and the Water Use License (WUL). The draft BAR and WUL will be made available for public review prior to submission to the relevant environmental authority for decision-making:

9.1. Notification of Environmental Impact Assessment process

- a) Pre-Application and application sent to DFFE

- b) Advertising in local and/or regional newspapers
- c) Inform I&AP's and stakeholders through site notices, background information documents and stakeholders' letters

9.2. Draft Basic Assessment Report and Draft Environmental Management Programme

- a) Draft BA Report and Draft Environmental Management Programme (EMPr) sent to I&AP's and stakeholders
- b) Draft BA Report submitted to the DFFE
- c) Collection of comments from I&AP's and stakeholders
- d) Comments from the DFFE

9.3. Final Basic Assessment Report and Final Environmental Management Programme

- a) Final BAR Report and Final EMPr sent to I&AP's and stakeholders
- b) Final BA Report submitted to the DFFE

9.4. Decision Making

- a) Acknowledge receipt of Final BA Report and EMPr
- b) To grant or refuse Environmental Authorization
- c) Notification of decision
- d) Information of stakeholders & I&AP's of decision in writing.

10. RIGHTS AND RESPONSIBILITIES AS AN I&AP

In terms of the EIA Regulations 2014, please take note of your rights and responsibilities as an I&AP. In order to participate in this EIA process as an I&AP, you must register yourself on the project database. Please observe that all comments regarding the proposed project have to be submitted within the stipulated timeframes.

Finally, please be advised that as an I&AP you are required to disclose any direct business, financial, personal or other interest which that you may have in the approval or reject of the application for the proposed project.

11. PRELIMINARY TIME SCHEDULE

Public participation process	11 April 2024- 13 May 2024
Submission of Draft BA Report	May 2024
Submission of Final BAR Report	June 2024

12. INVITATION TO PARTICIPATE

Exigent Engineering Consultants has been appointed by Alwaid Energy (Pty) Ltd as the EAP to undertake the BA process, including the PPP. We would like to encourage you to participate in this BA process.

Should you wish to get involved, receive project information, and/or to raise issues, please provide your written comments together with your name, contact details, preferred method of notification (e.g. email or fax) and an indication of any direct business, financial, personal or other interest which you have in the application by **13 May 2024**.

13. WHO TO CONTACT

Exigent Engineering Consultants cc

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Appendix A: Locality Maps

