forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Private Bag X 447 PRETORIA 0001 Environment House 473 Steve Biko Road, Arcadia PRETORIA

DFFE Reference: 14/12/16/3/3/1/2815
Enquiries: Ms. Matlhodi Mogorosi
Telephone: (012) 399 9388 **E-mail:** MMogorosi@dffe.gov.za

Ms. Michelle Herbert
Padloper PV (Pty) Ltd
PO Box 23101
CLAREMONT
7735

Telephone Number: (021) 670 1423
Cell phone Number: (082) 308 8535
Email Address: Michelle.Herbert@aced.co.za

PER EMAIL / MAIL

Dear Ms. Herbert

APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, ACT NO. 107 OF 1998, AS AMENDED: FOR THE DEVELOPMENT OF THE UP TO 150MW PADLOPER SOLAR PV FACILITY 5 (I.E., PADLOPER PV 5), THE ASSOCIATED 132KV ELECTRICAL GRID INFRASTRUCTURE BETWEEN THE PROPOSED PADLOPER PV 4 AND THE PROPOSED PADLOPER PV 5 (I.E., PADLOPER EGI 5) AND THEIR ASSOCIATED INFRASTRUCTURE NEAR MURRAYSBURG, WITHIN THE BEAUFORT WEST LOCAL MUNICIPALITY IN THE WESTERN CAPE PROVINCE

With reference to the above application, please be advised that the Department has decided to grant authorisation. The Environmental Authorisation (EA) and the reasons for the decision are attached herewith.

In terms of Regulation 4(2) of the Environmental Impact Assessment Regulations, 2014, as amended (the EIA Regulations), you are instructed to notify all registered interested and affected parties, in writing and within fourteen (14) days from the date of the decision, as well as the provisions regarding the submission of appeals that are contained in the Regulations.

In terms of the Promotion of Administrative Justice Act, Act No. 3 of 2000, you are entitled to the right to fair, lawful, and reasonable administrative action; and to written reasons for administrative action that affects you negatively. Further, your attention is drawn to the provisions of the Protection of Personal Information Act, Act No. 4 of 2013 which stipulate that the Department should conduct itself in a responsible manner when collecting, processing, storing, and sharing an individual or another entity's personal information by holding the Department accountable should the Department abuse or compromise your personal information in any way.

Your attention is drawn to Chapter 2 of the National Environmental Management Act, Act No. 107 of 1998 National Appeal Regulations published under Government Notice R993 in Government Gazette No. 38303 dated 08 December 2014 (National Appeal Regulations, 2014), which prescribes the appeal procedure to be followed. Kindly include a copy of this document (National Appeal Regulations, 2014) with the letter of notification to interested and affected parties in this matter.

Should any person wish to lodge an appeal against this decision, he/she must submit the appeal to the appeal administrator, and a copy of the appeal to the applicant, any registered interested and affected party, and any organ of state with interest in the matter within 20 days from the date that the notification of the decision was sent to the registered interested and affected parties by the applicant; or the date that the notification of the decision was sent to the applicant by the Department, whichever is applicable.

Appeals must be submitted in writing in the prescribed form to:

The Director: Appeals and Legal Review of this Department at the below-mentioned addresses.

By email: appeals@dffe.gov.za;

By hand: Environment House
473 Steve Biko
Arcadia
Pretoria
0083; or

By post: Private Bag X447
Pretoria
0001

Please note that in terms of Section 43(7) of the National Environmental Management Act, Act No. 107 of 1998, as amended, the lodging of an appeal will suspend the environmental authorisation, or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal is finalised.

To obtain the prescribed appeal form and for guidance on the submission of appeals, please visit the Department's website at https://www.environment.gov.za/documents/forms#legal_authorisations or request a copy of the documents at appeals@dffe.gov.za.

Yours faithfully

Mr. Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Date: 23/01/2024

cc:	Mr. Paul Lochner	Council for Scientific & Industrial Research CSIR)	Email: PLochner@csir.co.za / Dmoodley1@csir.co.za
	Mr. Gavin Benjamin	Department of Environmental Affairs & Development Planning (WC)	Email: gavin.benjamin@westerncape.gov.za / Adri.LaMeyer@westerncape.gov.za /
	Mr. Quinton Louw	Beaufort West Local Municipality	Email: admin@beaufortwestmun.co.za / goodwilln@beaufortwestmun.co.za

forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

Environmental Authorisation

In terms of Regulation 25 of the NEMA Environmental Impact Assessment Regulations, 2014, as amended.

The development of the up to 150MW Padloper Solar PV Facility 5 (i.e., Padloper PV 5), the associated 132kV electrical grid infrastructure between the proposed Padloper PV 4 and the proposed Padloper PV 5 (i.e., Padloper EGI 5) and their associated infrastructure near Murraysburg, within the Beaufort West Local Municipality in the Western Cape Province

Central Karoo District Municipality

Authorisation register number:	*14/12/16/3/3/1/2815*
Last amended:	*First issue*
Holder of authorisation:	*Padloper PV (Pty) Ltd*
Location of activity:	***Padloper PV 5**:* *Portion 3 of Farm Driefontein No.26* ***Padloper EGI 5**:* *Portion 2 of Farm Driefontein No.26; and* *Portion 3 of Farm Driefontein No.26* *Beaufort West Local Municipality* *Central Karoo District Municipality* *Western Cape Province*

This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

Decision

The Department is satisfied, on the basis of information available to it and subject to compliance with the conditions of this Environmental Authorisation, that the applicant should be authorised to undertake the activities specified below.

Non-compliance with a condition of this Environmental Authorisation may result in criminal prosecution or other actions provided for in the National Environmental Management Act, Act No. 107 of 1998, as amended and the EIA Regulations, 2014, as amended.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

Activities authorised

By virtue of the powers conferred on it by the National Environmental Management Act, Act No. 107 of 1998, as amended and the Environmental Impact Assessment Regulations, 2014, as amended, the Department hereby authorises –

PADLOPER PV (PTY) LTD

(hereafter referred to as the **holder of the authorisation**)

with the following contact details –

Ms. Michelle Herbert
PO Box 23101
CLAREMONT
7735

Telephone Number:	021 670 1423
Cell Number:	082 308 8535
Email Address:	Michelle.Herbert@aced.co.za

to undertake the following activities (hereafter referred to as "the activity") indicated in Listing Notice 1, Listing Notice 2 and Listing Notice 3 of the NEMA EIA Regulations, 2014 as amended:

Activity number	Activity description
Listing Notice 1, Item 11 *"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."*	The proposed project will entail the construction of an associated 132kV overhead power line connecting the proposed solar facility to the switching station located on the proposed Padloper PV 4 site. An on-site substation complex will be constructed at the solar facility. The transformation capacity is estimated at 200 - 250MVA, and generally stepping up from 22kV or 33kV to 132kV for injection into the Eskom grid. The overhead power line and on-site substation complex constitute facilities for the distribution and transmission of electricity. The proposed project will take place outside of an urban area.
Listing Notice 1, Item 12 *"The development of-* *(ii) infrastructure or structures with a physical footprint of 100 square metres or more;* *where such development occurs-* *(a) within a watercourse;* *(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse."*	The proposed solar PV facility will have an estimated footprint of over 200ha (excluding access roads). The proposed project will also entail the construction of various infrastructure and structures (such as the solar field, BESS, laydown area, internal roads, and ancillary infrastructure such as O&M building/centre, site office, workshop, staff lockers, bathrooms/ ablutions, warehouse, guard house, etc.). These developments will constitute

Activity number	Activity description
	infrastructure with a physical footprint of more than 100m². The proposed PV project will be constructed on farm portions outside of urban areas, approximately 18km from Murraysburg, in the Western Cape Province, thereby triggering this activity.
Listing Notice 1, 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".*	The proposed project may entail the excavation, removal and moving of more than 10m³ of soil, sand, pebbles or rock from nearby watercourses onsite. The proposed project may also entail the infilling of more than 10m³ of material into the nearby watercourses, thereby triggering this activity. Specifically, the associated infrastructure traversing watercourses (such as access roads) will result in the accumulated infilling or depositing of more than 10m³ of material into watercourses and wide flood plains.
Listing Notice 1, Item 24 *"The development of a road -* *(ii) with reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 meters."*	Existing roads will be used as far as practically achievable. However, the access and internal road network will need to be developed and upgraded (using all technically feasible existing farm roads where possible) to ensure that the delivery of project infrastructure components and associated infrastructure is possible and that maintenance teams can access the entire solar field throughout the lifespan of the project. It is proposed that the road network will be approximately 8m wide (6m wide road surface

Activity number	Activity description
	with 1m drain on either side) and will be longer than 1km. Where required for turning circle/bypass areas, however, access or internal roads may be up to 10m to allow for larger component transport. This activity is therefore applicable to the various main access roads to the site and the roads between project components.
Listing Notice 1, Item 28 *"Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes 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 hectare."*	The proposed solar facility will be developed outside of an urban area. It will be constructed on various affected farm portions near Murraysburg in the Western Province. The land earmarked for the development of the proposed facility is currently used for agricultural purposes. The proposed solar PV facility, which is considered a commercial/ industrial development, will have a footprint of over 1ha (minimum footprint of about 202ha).
Listing Notice 1, Item 48 *"The expansion of-* *(i) infrastructure or structures where the physical footprint is expanded by 100 square metres or more;* *where such expansion occurs-* *(a) within a watercourse;* *(c) if no development setback exists, within 32 metres of a watercourse, measured from the edge of a watercourse;*	The proposed project will require the upgrading of existing roads within the project area, as well as watercourse crossing upgrades, where such upgrades may take place within watercourses and within 32m from the edge of these watercourses. The total footprint of the upgrades and expansion of infrastructure would be more than 100m^2 within a watercourse, or within 32m of a watercourse. The study area is traversed by a minor watercourse and a core function aquatic habitat (i.e., alluvial watercourses with riparian vegetation) is

Activity number	Activity description
	present within the study area. As such, development could occur within 32 metres of a watercourse.
Listing Notice 1, Item 56 *"The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre-* *(ii) where no reserve exists, where the existing road is wider than 8 metres."*	Where required, existing gravel roads will be upgraded, and may be widened by more than 6m and/or lengthened by more than 1km.
Listing Notice 2, Item 1 *"The development of facilities or infrastructure for the generation of electricity from a renewable resource where the electricity output is 20 megawatts or more."*	The proposed project is a solar PV facility (i.e., a facility for the generation of electricity from a renewable resource) with a maximum installed capacity of up to 150MW. The proposed PV project will be constructed on farm portions which are located outside of an urban area, approximately 18km from the town of Murraysburg, within the Western Cape Province.
Listing Notice 2, Item 4 *"The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres".*	The proposed project will include the installation of a BESS. The BESS will cover an area of approximately 5ha at the proposed solar facility project site, have a maximum height of 10m and have a storage capacity of approximately 900MWh. As such, the BESS will constitute the storage and handling of approximately 30000m^3 of electrolyte.
Listing Notice 2, Item 15 *"The clearance of an area of 20 hectares or more of indigenous vegetation."*	The proposed solar PV facility, which is considered a commercial/ industrial development, will have an estimated footprint of approximately 200ha (excluding access roads).

Activity number	Activity description
	The proposed project will also entail the construction of various infrastructure and structures. As a result, more than 20ha of indigenous vegetation would be removed for the construction of the proposed project.
Listing Notice 3, Item 4 *"The development of a road wider than 4 metres with a reserve less than 13,5 metres".* *(i) In the Western Cape;* *(ii) Areas outside urban areas;* *(aa) Areas containing indigenous vegetation".*	Internal roads will be constructed at the proposed solar facility. The internal roads are estimated to have a width of approximately 8m (6m with a 1m drain on either side). Where required for turning circle/bypass areas, however, access or internal roads may be up to 10m to allow for larger component transport. The proposed solar facilities will take place outside of an urban area in the Western Cape on sites that contain indigenous vegetation.
Listing Notice 3, Item 12 *"The clearance of an area of 300 square metres or more of indigenous vegetation,* *(i) In the Western Cape;* *(ii) Within critical biodiversity areas identified in bioregional plans."*	The proposed solar PV facility will have an estimated footprint of approximately 200ha (excluding access roads). The proposed project will also entail the construction of various infrastructure and structures. As a result, more than 300m² of indigenous vegetation would be removed for the construction of the proposed project and associated infrastructure. The proposed project will take place outside of an urban area in the Western Cape, on sites that contain a small area of critical biodiversity areas.
Listing Notice 3, Item 14 *"The development of-* *(ii) infrastructure or structures with a physical footprint of 10 square metres or more;* *where such development occurs-*	The proposed solar PV facility will have an estimated footprint of approximately 202ha (excluding access roads). The proposed project will also entail the construction of various

Activity number	Activity description
(a) within a watercourse; *(c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse;* *(i) In the Western Cape;* *(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".*	infrastructure and structures. This will constitute infrastructure with a physical footprint of more than 10m², and some may occur within small drainage features and 32m of the watercourses. The proposed project will take place outside of an urban area in the Western Cape, on sites that contain a small area of critical biodiversity areas.
Listing Notice 3, Item 18 *"The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre.* *(i) In the Western Cape;* *(ii) All areas outside urban areas;* *(aa) Areas containing indigenous vegetation".*	The proposed facility can be accessed using public roads R63 and DR2404 (existing roads will be used as far as practically achievable) some of which will require an upgrade to accommodate the proposed adjusted land use. Existing access roads to the proposed solar facility will be used as far as practically achievable and will be upgraded where needed. The current width of the existing access roads is approximately 5m, and the upgraded width is proposed to be approximately 8m. Therefore, the existing roads may be widened by more than 4m and/or lengthened by more than 1km. The proposed PV project will be constructed on several farm portions, approximately 18km north-east of Murraysburg within the Western Cape Province. Therefore, the proposed project is situated outside of an urban area. The proposed project will take place on sites that contain a small area of critical biodiversity areas.

As described in the Basic Assessment Report (BAR) dated November 2023 at:

SG 21 Digit Code, Farm Names & Portions

Affected Farm Portion	SG Code	Padloper PV 5	Padloper EGI 5
Portion 3 of Farm Driefontein No. 26	C05200000000002600003	✓	✓
Portion 2 of Farm Driefontein No. 26	C05200000000002600002		✓

Co-ordinate points along the boundary of the PV facility and the associated power line route

Project Site	Point	Coordinate Points (Degrees, Minutes, Seconds)	
		Longitude (x)	Latitude (y)
Padloper PV 5 – Project Site Area	1	23° 51' 45.39679560" E	31° 54' 11.48356440" S
	2	23° 51' 28.97683200" E	31° 53' 21.15858480" S
	3	23° 51' 43.60957560" E	31° 53' 01.67355600" S
	4	23° 52' 00.07953240" E	31° 53' 33.00144720" S
	5	23° 52' 25.18254840" E	31° 53' 24.15258240" S
	6	23° 53' 01.34537280" E	31° 53' 48.91686360" S
	7	23° 53' 06.41574240" E	31° 54' 01.98358200" S
	8	23° 52' 36.95439000" E	31° 53' 54.71018880" S
	9	23° 52' 34.41030240" E	31° 53' 47.47879680" S
	10	23° 52' 22.53345960" E	31° 53' 44.12304960" S
	11	23° 52' 20.96527080" E	31° 54' 03.81667320" S
	12	23° 52' 06.73712040" E	31° 53' 55.95132840" S
	13	23° 52' 07.36542480" E	31° 54' 03.45422160" S
	14	23° 52' 05.49865200" E	31° 54' 13.39413120" S
	15	23° 52' 07.90813200" E	31° 54' 21.63902760" S
	16	23° 52' 01.04744280" E	31° 54' 27.21211560" S
Padloper EGI 5 – Bend points	1- start	23° 52' 57.87255720" E	31° 53' 49.25643360" S
	2	23° 53' 00.00575520" E	31° 53' 49.23956400" S
	3	23° 53' 29.66907480" E	31° 53' 43.92044880" S
	4	23° 53' 38.88826800" E	31° 53' 25.97373240" S
	5	23° 54' 04.70302200" E	31° 53' 02.10587640" S
	6 - end	23° 54' 07.43867640" E	31° 53' 01.29922440" S

Coordinates of the proposed internal access roads associated with the proposed PV project.

Internal Access Roads	Point	Coordinate Points (Degrees, Minutes, Seconds)	
		Longitude (x)	Latitude (y)
Padloper PV 5	Start	23° 53' 25.62190080" E	31° 54' 20.09675520" S
	Middle	23° 52' 54.14820240" E	31° 54' 03.78094680" S
	End	23° 52' 23.66026680" E	31° 53' 44.21706360" S

Co-ordinate Points of centroids of the onsite substation complex

Infrastructure	Point	Coordinate Points (Degrees, Minutes, Seconds)	
		Longitude (x)	Latitude (y)
On-site substation complex	Centroid	23° 52' 56.550" E	31° 53' 48.677" S

- for the development of the up to 150MW Padloper Solar PV Facility 5 (i.e., Padloper PV 5), the associated 132kV electrical grid infrastructure between the proposed Padloper PV 4 and the proposed Padloper PV 5 (i.e., Padloper EGI 5) and their associated infrastructure near Murraysburg, within the Beaufort West Local Municipality in the Western Cape Province, hereafter referred to as "the property".

The key components of the development are as follows:

- Solar Photovoltaic (PV) arrays with a total maximum capacity of 150MW:
  - PV panels will occupy a maximum area of 202ha and extend up to 4.5m high;
  - Technology mounting infrastructure being considered includes Single Axis Tracking structures (aligned north-south), Dual Axis Tracking (aligned east-west and north-south), Fixed Tilt Mounting Structure, Mono-facial Solar Modules, or Bifacial Solar Modules;
  - Total fenced area of 243ha and lighting;
  - 3.5MW inverters, covering an area of 0.022ha each and each extending ± 3m high will be located across the proposed project. Each inverter station will have 1 – 2 lightning rods which extend up to 10m high;
- 132kV overhead powerline between the PV facility and the authorised Ishwati Emoyeni Collector Substation:
  - The overhead power line will extend 17.4m to 21m high, with a servitude length of 2.53km and a planned registered servitude width of 50m;
  - Pylon foundations ranging from 0.6m x 0.6m to 1.5m x 1.5m and a minimum 20m x 20m working area required;
  - Steel monopole or lattice pylons, and Self-supporting and Angle Strain towers;
- Temporary Construction and Laydown areas;
- Main access road to follow the existing road as far as practically possible and upgraded as needed;
- Up to 7km of internal access roads;
- Underground internal medium voltage (22kV or 33kV) transmission and/or distribution cabling;
- Site offices Including a warehouse/workshop and an operational and maintenance (O&M) control centre;
- Guard houses and ablution facilities;

- Battery Energy Storage System with a capacity of 900MWh, Lithium-Ion, Sodium-Ion, Solid State and Redox Flow technology were considered;
- 132kV On-site substation complex;
- Stormwater infrastructure;
- Water supply and water storage infrastructure.

Below is a table for the details or dimensions of the up to **150MW Padloper PV Photovoltaic Facility 6 (i.e., Padloper PV 6), Electrical Grid Infrastructure (i.e., Padloper EGI 6),** and other associated infrastructure:

Component	Dimensions / Specifications
Solar PV	
Type of Technology	• Solar Photovoltaic (PV) Technology
Height of PV panels	• Maximum of ± 4.5m
Capacity of the PV Facility	• Up to 150MW
Area of PV Array (i.e., the proposed area occupied by PV Modules)	• 202ha
Total fenced area (i.e., the area that includes all associated infrastructure within the **fenced-off** area of the PV facility)	• Approximately 243ha

Technology mounting structure	• The following technologies are being considered:
	  • Single Axis Tracking structures (aligned north-south);
	  • Dual Axis Tracking (aligned east-west and north-south);
	  • Fixed Tilt Mounting Structure;
	  • Mono-facial Solar Modules; or
	  • Bifacial Solar Modules.

Inverter-transformer stations	• 3.5MW inverters will be located across the proposed project. The exact number of inverters is still to be confirmed however all inverter-transformers will be within the PV array. • Area occupied by stations: 0.022ha each. • Height: The inverter stations will have a height of ± 3m each (Excluding lightning rods. The lightning rods are expected to

Component	Dimensions / Specifications
	extend 10m high. Each inverter station will have 1 – 2 lightning rods).
Overhead power line	
Capacity	• 132kV
Foundation	• The size of the footprint area will range from 0.6m x 0.6m to 1.5m x 1.5 m. • The minimum working area required around a structure position is 20m x 20m.
Pylon	• Steel monopole or lattice towers
Tower type	• Self-supporting and Angle Strain towers
Height	• 17.4m – 21m
Servitude length	• Approximately 2.53km
Servitude width	• Assessed servitude width: 400m wide corridor (i.e., 200m on either side of the center line) • Registered servitude will be up to 50 m wide. • The entire servitude will not be cleared of vegetation. Vegetation clearance within the servitude will be undertaken in compliance with relevant standards and specifications.
Proximity to grid connection	• This proposed 132kV overhead power line will facilitate the connection of the proposed Padloper PV 5 to the existing Gamma MTS, via the proposed Padloper PV 4 and the authorised Ishwati Emoyeni Collector Substation.
Associated infrastructure	
Temporary Construction and Laydown area	• Area: 1 - 4ha • These areas will be rehabilitated after construction and will not be retained for the operational phase.
Main access roads	• Width: 5m • Length: 2.1km • The existing road network will be used as far as practically possible and upgraded as needed.

Component	Dimensions / Specifications
Internal access roads	• Width: 5m • Length: Up to 7km of internal roads – for security patrols and to access all the equipment (module cleaning and equipment maintenance). • The existing road network will be used as far as practically possible and upgraded as needed.
Upgrading of existing access road/s	• Existing roads will be used as far as practically achievable. • Current width (m): ± 5m • Upgraded width (m): ± 8m (6m wide road surface with 1m drain on either side) • Where required for turning circle/bypass areas, however, access or internal roads may be up to 10m to allow for larger component transport.
Internal transmission and/or distribution lines	• All on-site medium voltage cabling (22kV or 33 kV) will be buried to a maximum depth of 1.5m.
Site offices Include a warehouse/workshop and an operational and maintenance (O&M) control centre. The details provided in this section are for one site office.	• Number of buildings: 1 • Height: Maximum height of 10m • Footprint: 300m^2
Guard houses	• Maximum height: Up to 3m • Footprint: ± 6m x 6m (i.e., ± 36m^2) • There will be two (02) guardhouses at the proposed project site. The details provided in this section are for one guard house.
Ablution facilities	• Maximum height: Up to 10m • Footprint: Staff lockers: ± 22m x 11m (± 242m^2) • There will be two (02) ablution facilities at the proposed project site, included in site offices and guardhouse footprints. The details provided in this section are for one ablution facility.
Battery energy storage system (BESS)	• Technology types considered: Lithium-Ion, Sodium-Ion, Solid State and Redox Flow technology.

Component	Dimensions / Specifications
	• Footprint: ± 5ha • Height: Maximum height of 10m • Capacity: 900MWh
On-site substation complex	• Capacity: 132kV • Area: 2ha • Height: Maximum height of 18m • The facility substation complex will be located within the solar PV site.
On-site medium voltage cables or cable trays	• Depth: Maximum depth of 1.5m • Capacity: 22kV or 33kV
Water use requirements	• Estimated quantity of water (litres) required for the construction phase: Up to 30 000m^3 per annum. • Estimated quantity of water (litres) required for the operational phase: Up to 8 000m^3 per annum. • Estimated quantity of water (litres) required for the decommissioning phase: The exact amount of water required during this phase is unknown at this stage but is expected to be similar to that of the construction phase.
Construction period	• Up to 24 months

Conditions of this Environmental Authorisation

Scope of authorisation

1. The development of the up to 150MW Padloper Solar PV Facility 5 (i.e., Padloper PV 5), the associated 132kV electrical grid infrastructure between the proposed Padloper PV 4 and the proposed Padloper PV 5 (i.e., Padloper EGI 5) and their associated infrastructure within Ward 1 of the Beaufort West Local Municipality in the Western Cape Province, is approved as per the geographic coordinates cited in the tables above.
2. Authorisation of the activity is subject to the conditions contained in this Environmental Authorisation, which form part of the Environmental Authorisation and are binding on the holder of the authorisation.
3. The holder of the authorisation is responsible for ensuring compliance with the conditions contained in this Environmental Authorisation. This includes any person acting on the holder's behalf, including but not limited to, an agent, servant, contractor, sub-contractor, employee, consultant or person rendering a service to the holder of the authorisation.
4. The activities authorised must only be carried out at the property as described above.
5. Any changes to, or deviations from, the project description set out in this Environmental Authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further Environmental Authorisation in terms of the regulations.
6. The holder of an Environmental Authorisation must apply for an amendment of the Environmental Authorisation with the Competent Authority for any alienation, transfer or change of ownership rights in the property on which the activity is to take place.
7. This activity must commence within a period of ten (10) years from the date of issue of this Environmental Authorisation. If the commencement of the activity does not occur within that period, the authorisation lapses and a new application for Environmental Authorisation must be made for the activity to be undertaken.
8. Construction must be completed within five (05) years of the commencement of the activity on site.
9. Commencement with one activity listed in terms of this environmental authorisation constitutes commencement of all authorised activities.

Notification of authorisation and right to appeal

10. The holder of the authorisation must notify every registered interested and affected party, in writing and within 14 (fourteen) calendar days of the date of this Environmental Authorisation, of the decision to authorise the activity.
11. The notification referred to must –
    11.1. specify the date on which the authorisation was issued;
    11.2. inform the interested and affected party of the appeal procedure provided for in the National Appeal Regulations, 2014;
    11.3. advise the interested and affected party that a copy of the authorisation will be furnished on request; and
    11.4. Give the reasons of the Competent Authority for the decision.

Commencement of the activity

12. The authorised activity must not commence until the period for the submission of appeals has lapsed as per the National Appeal Regulations, 2014, and no appeal has been lodged against the decision. In terms of Section 43(7), an appeal under Section 43 of the National Environmental Management Act, Act No. 107 of 1998, as amended will suspend the Environmental Authorisation or any provision or condition attached thereto. In the instance where an appeal is lodged, you may not commence with the activity until such time that the appeal has been finalised.

Management of the activity

13. The project layout plan attached as Figure C-3 of Appendix C of the final BAR and labelled *"Layout map for Padloper Solar PV and EGI 5"* dated 25 July 2023 for the Padloper Solar Photovoltaic Facility 5 (i.e., Padloper PV 5), the associated 132kV electrical grid infrastructure between the proposed Padloper PV 4 and the proposed Padloper PV 5 (i.e., Padloper EGI 5) and their associated infrastructure, is approved.
14. The Environmental Management Programme (EMPr) for the Padloper Solar Photovoltaic Facility 5 (i.e., Padloper PV 5) and associated infrastructure, submitted as part of the BAR dated November 2023 is approved and must be implemented and adhered to.
15. The Generic Environmental Management Programme (EMPr), *"for the development and expansion of substation infrastructure for the transmission and distribution of electricity"* **for the 132kV On-site**

Substation Hub/Complex, specifically Part C: Site Specific Environmental Attributes, dated 11 August 2023 submitted as part of the BAR, is approved and must be implemented and adhered to.

16. The Generic Environmental Management Programme (EMPr), *"for the development and expansion for overhead electricity transmission and distribution infrastructure"* **for the 132kV overhead powerline**, specifically Part C: Site Specific Environmental Attributes, dated 11 August 2023 submitted as part of the BAR, is approved and must be implemented and adhered to.
17. The EMPrs must be implemented and strictly enforced during all phases of the project. They shall be seen as dynamic documents and shall be included in all contract documentation for all phases of the development when approved.
18. Changes to the approved EMPrs must be submitted in accordance with the EIA Regulations applicable at the time.
19. The Department reserves the right to amend the approved EMPrs should any impacts that were not anticipated or covered in the BAR be discovered.

Frequency and process of updating the EMPr

20. The EMPr must be updated where the findings of the environmental audit reports, contemplated in Condition 26 below, indicate insufficient mitigation of environmental impacts associated with the undertaking of the activity, or insufficient levels of compliance with the environmental authorisation or EMPr.
21. The updated EMPr must contain recommendations to rectify the shortcomings identified in the environmental audit report.
22. The updated EMPr must be submitted to the Department for approval together with the environmental audit report, as per Regulation 34 of the EIA Regulations, 2014 as amended. The updated EMPr must have been subjected to a public participation process, which process has been agreed to by the Department, before submission of the updated EMPr to the Department for approval.
23. In assessing whether to approve an EMPr which has been updated as a result of an audit, the Department will consider the processes prescribed in Regulation 35 of the EIA Regulations, 2014 as amended. Prior to approving an amended EMPr, the Department may request such amendments to the EMPr as it deems appropriate to ensure that the EMPr sufficiently provides for avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity.
24. The holder of the authorisation must apply for an amendment of an EMPr if such amendment is required before an audit is required. The amendment process is prescribed in Regulation 37 of the EIA Regulations, 2014, as amended. The holder of the authorisation must request comments on the proposed amendments

to the impact management outcomes of the EMPr or amendments to the closure objectives of the closure plan from potentially interested and affected parties, including the competent authority, by using any of the methods provided for in the Act for a period of at least 30 days.

Monitoring

25. The holder of the authorisation must appoint an experienced Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation/rehabilitation measures and recommendations referred to in this environmental authorisation are implemented and to ensure compliance with the provisions of the approved EMPrs.
    25.1. The ECO must be appointed before the commencement of any authorised activities.
    25.2. Once appointed, the name and contact details of the ECO must be submitted to the *Director: Compliance Monitoring* of the Department.
    25.3. The ECO must keep a record of all activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken by the ECO.
    25.4. The ECO must remain employed until all rehabilitation measures, as required for implementation due to construction damage, are completed and the site is ready for operation.

Recording and reporting to the Department

26. All documentation e.g., audit/monitoring/compliance reports and notifications, required to be submitted to the Department in terms of this environmental authorisation, must be submitted to the *Director: Compliance Monitoring* of the Department.
27. The holder of the environmental authorisation must, for the period during which the environmental authorisation and EMPrs remain valid, ensure that project compliance with the conditions of the environmental authorisation and the EMPrs are audited and that the audit reports are submitted to the *Director: Compliance Monitoring* of the Department.
28. The frequency of auditing and submission of the environmental audit reports must be as per the frequency indicated in the EMPrs, considering the processes for such auditing as prescribed in Regulation 34 of the NEMA EIA Regulations, 2014 as amended.
29. The holder of the authorisation must, in addition, submit environmental audit reports to the Department within 30 days of completion of the construction phase (i.e., within 30 days of site handover) and a final environmental audit report within 30 days of completion of rehabilitation activities.

30. The environmental audit reports must be compiled in accordance with Appendix 7 of the NEMA EIA Regulations, 2014 as amended and must indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the approved EMPrs.
31. Records relating to monitoring and auditing must be kept on-site and made available for inspection to any relevant and competent authority in respect of this development.

Notification to authorities

32. A written notification of commencement must be given to the Department no later than fourteen (14) days prior to the commencement of the activity. The notice must include a date on which it is anticipated that the activity will commence, as well as a reference number.

Operation of the activity

33. A written notification of operation must be given to the Department no later than fourteen (14) days prior to the commencement of the activity operational phase.

Site closure and decommissioning

34. Should the activity ever cease or become redundant, the holder of the authorisation must undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and Competent Authority at that time.

Specific conditions

35. No activities, which require a water use license, must be allowed to encroach into a water resource without a water use authorisation being in place from the Department of Water and Sanitation.
36. A permit must be obtained from the relevant Department for the removal or destruction of indigenous, protected, or endangered plant or animal species (if any) and a copy of such permit/s must be submitted to the Department for record keeping.
37. No exotic plants may be used for rehabilitation purposes. Only indigenous plants of the area may be utilised.

38. Foundations and trenches must be backfilled with originally excavated materials as much as possible. Excess excavation materials must be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.
39. The washing of panels during maintenance must be done with biodegradable soaps to avoid soil contamination.
40. The powerline must be marked with recommended bird flight diverters (such as brightly coloured 'aviation' balls, thickened wire spirals, or flapping devices) on potential areas of high impact as identified by an avifauna specialist, to increase the visibility of the lines for collision-susceptible species.
41. The archaeological site at waypoint 184 and the house that lies adjacent to the eastern part of the facility access road must be flagged as no-go areas and properly demarcated to ensure preservation and avoidance.
42. If any evidence of archaeological sites or remains (e.g., remnants of stone-made structures, indigenous ceramics, bones, stone artefacts, ostrich eggshell fragments, marine shell, and charcoal/ash concentrations), unmarked human burials, fossils or other categories of heritage resources are uncovered during construction, work in the immediate area must be halted, and Heritage Western Cape must be alerted immediately, and a professional archaeologist or palaeontologist (depending on the nature of the finds) must be contacted as soon as possible to inspect the findings.
43. Construction must include design measures that allow surface and subsurface movement of water along drainage lines so as not to impede natural surface and subsurface flows. Drainage measures must promote the dissipation of stormwater run-off.
44. An integrated waste management approach must be implemented that is based on waste minimisation and must incorporate reduction, recycling, reuse, and disposal where appropriate. Any solid waste must be disposed of at a landfill licensed in terms of Section 20 (b) of the National Environment Management Waste Act, 2008 (Act No.59 of 2008).

General

45. A copy of this Environmental Authorisation, the audit and compliance monitoring reports, and the approved EMPrs must be made available for inspection and copying-

45.1. at the site of the authorised activity;

45.2. to anyone on request; and

45.3. Where the holder of the Environmental Authorisation has a website, on such publicly accessible website.

46. National government, provincial government, local authorities or committees appointed in terms of the conditions of this authorisation or any other public authority shall not be held responsible for any damages

or losses suffered by the holder of the authorisation or his/her successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-compliance by the holder of the authorisation with the conditions of authorisation as set out in this document or any other subsequent document emanating from these conditions of authorisation.

Date of Environmental Authorisation: 23/01/2024

Mr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries & the Environment

Annexure 1: Reasons for Decision

1. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

a) The listed activities as applied for in the amended application form received by the Department on 10 November 2023.

b) The information contained in the final BAR dated November 2023.

c) The comments received from interested and affected parties as included in the final BAR dated November 2023.

d) Mitigation measures as proposed in the final BAR dated November 2023 and the EMPrs.

e) The information contained in the specialist input contained within the Appendices of the final BAR dated November 2023 and as appears below:

Title	Prepared by	Date
Terrestrial Biodiversity & Species Impact Assessment	EnviroSci (Pty) Ltd	September 2023
Aquatic Biodiversity & Species Impact Assessment	EnviroSci (Pty) Ltd	September 2023
Avifauna Impact Assessment	Holland & Associates Environmental Consultants	August 2023
Agricultural Compliance Statement	Johann Lanz	August 2023
Visual Impact Assessment	SRK Consulting (South Africa) (Pty) Ltd	February 2023
Heritage Impact Assessment	ASHA Consulting (Pty) Ltd	August 2023 (Final version)
Socio-Economic Impact Assessment	Independent Economic Researchers	August 2023
Geohydrology Assessment	GEOSS South Africa (Pty) Ltd	July 2023
Desktop Geotechnical Study	GEOSS South Africa (Pty) Ltd	July 2023
Traffic Impact Assessment	SiVEST (Pty) Ltd	July 2023
BESS Risk Assessment	Ishecon	August 2023

MS

EMPr	Council for Scientific and Industrial Research (CSIR)	Updated

2. Key factors considered in making the decision

All information presented to the Department was considered in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

a) The findings of all the specialist input conducted and their recommended mitigation measures.

b) The need for the project stems from the provision of electricity to the national grid.

c) The final BAR dated November 2023 identified all legislation and guidelines that have been considered in the preparation of the final BAR.

d) The location of the proposed project falls within the Beaufort West Renewable Energy Development Zone (REDZ).

e) The methodology used in assessing the potential impacts identified in the final BAR dated November 2023 and the specialist input have been adequately indicated.

f) A sufficient public participation process was undertaken, and the applicant has satisfied the minimum requirements as prescribed in the NEMA EIA Regulations, 2014 as amended for public involvement.

3. Findings

After consideration of the information and factors listed above, the Department made the following findings -

a) The identification and assessment of impacts are detailed in the final BAR dated November 2023 and sufficient assessment of the key identified issues and impacts have been completed.

b) The procedure followed for impact assessment is adequate for the decision-making process.

c) The information contained in the final BAR dated November 2023 is deemed to be accurate and credible.

d) The proposed mitigation of impacts identified and assessed adequately curtails the identified impacts.

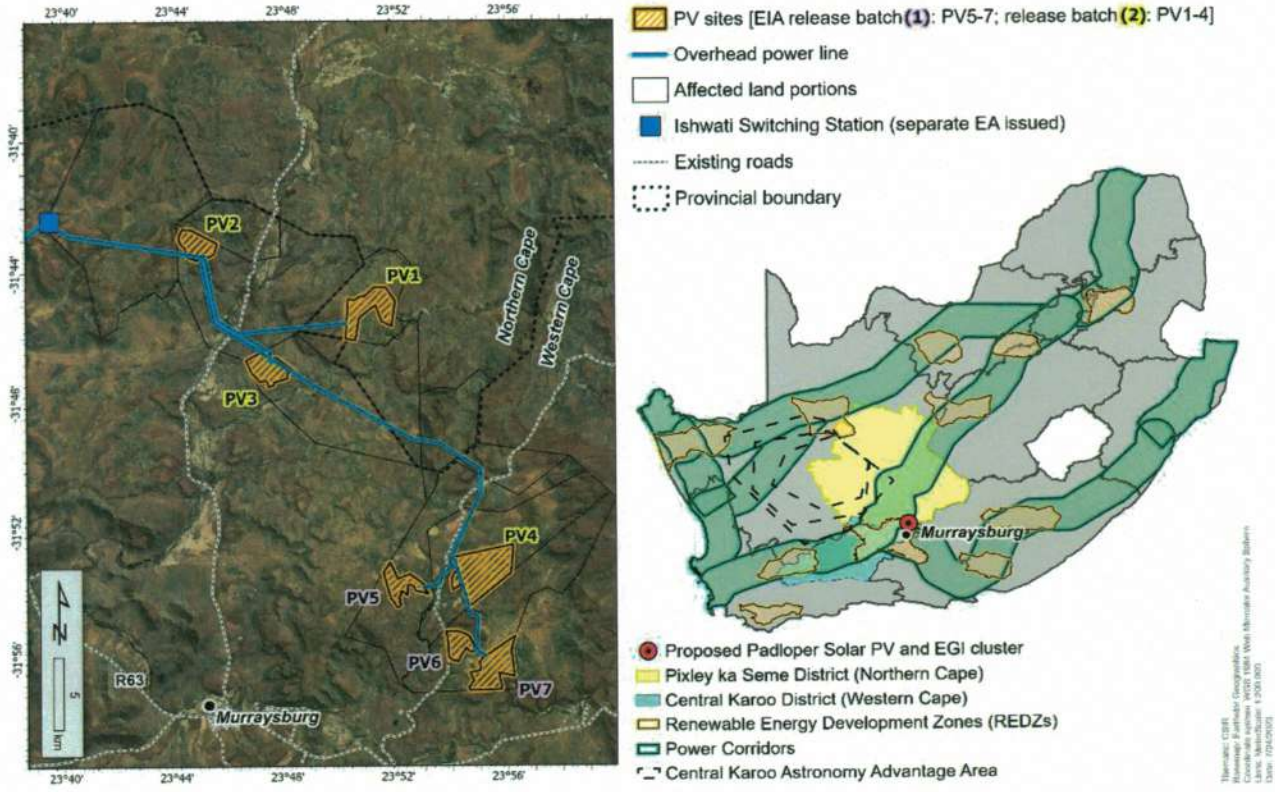
e) EMPr measures for the pre-construction, construction and rehabilitation phases of the development were proposed and included in the final BAR and will be implemented to manage the identified environmental impacts during the construction phase.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorisation, the authorised activities will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the authorised activities can be mitigated to acceptable levels. **The environmental authorisation is accordingly granted.**

Annexure 2: Locality Map

Proposed Padloper Solar Photovoltaic (PV) and Electricity Grid Infrastructure (EGI) cluster

near Murraysburg, in the Western Cape and Northern Cape, South Africa



Annexure 3: Project Layout Plan

Proposed Padloper Solar Photovoltaic (PV) and Electricity Grid Infrastructure (EGI) cluster

near Murraysburg, in the Western Cape and Northern Cape, South Africa

