

4 June 2026

Attention: AEP Bloemsmond Solar 2 (Pty) Ltd

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To whom it may concern:

AQUATIC BIODIVERSITY SPECIALIST INPUT FOR THE PART 1 AMENDMENT OF THE ENVIRONMENTAL AUTHORISATION (EA) FOR THE PROPOSED DEVELOPMENT OF THE AEP BLOEMSMOND SOLAR PV 2 (Pty) Ltd, NEAR UPINGTON, NORTHERN CAPE.

1. Background

AEP Bloemsmond Solar 2 (Pty) Ltd is the proponent for the proposed Bloemsmond Solar Energy 2 Facility. The project is located on the farm Bloemsmond 455, portions 5 and 14, situated southwest of Upington, within the ZF Mgcawu District Municipality, in the Northern Cape Province, South Africa. The proposed solar development is planned to cover approximately 225 hectares to meet the required capacity. The facility is designed for a contracted generation capacity of 100 megawatts (MW).

The Environmental Authorisation (EA) for the facility was issued on the 26 April 2016, DEA Reference 14/12/16/3/3/2/815, and has subsequently been amended since:

- 14/12/16/3/3/2/815/AM1 – 13 March 2020 – Increase in facility capacity from 75MW to 100MW
- 14/12/16/3/3/2/815/AM2 – 20 February 2021 – Inclusion of a BESS facility in the project description and an extension to the EA validity to 26 April 2026
- 14/12/16/3/3/2/815/AM3 - 25-Mar-2021 – Correction to 14/12/16/3/3/2/815/AM2

For the purpose of this report, reference to the EA includes the original EA and all amendments thereto.

Condition 7 of the EA states that:

“This activity must commence within a period of ten (10) years from the date of issue of the authorisation (i.e. the EA lapses on 26 April 2026). If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.”

An application to extend the validity of the EA was submitted on 16 April 2026. The competent authority acknowledged receipt of the application on 24 April 2026 and confirmed that the application falls within the ambit of amendments to be applied for in terms of Part 1 of Chapter 5 of the Environmental Impact Assessment Regulations, 2014, as amended.

Further to the acknowledgement, the competent authority requested additional information in support of this application, including a review of all specialist studies undertaken, a detailed assessment, including a site verification report providing an indication of the status of the receiving environment (by the relative specialist, if applicable) and confirmation of validity of the impact ratings and mitigation measures recommended previously.

2. Scope of Work

The Biodiversity Company was appointed to provide specialist inputs for this Amendment Application. The Scope of Work for this report is as follows:

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- Confirmation of the status of the environment and freshwater resources compared to that at the time of the original assessments done in 2015 by Todd (2015), and Scherman Colloty & Associates (2015) as well as the subsequent specialist impact statement provided in the BESS EA amendment application.
- An indication as to whether the impact rating as provided in the previous assessments remain valid; if the mitigation measures provided in the initial assessments are still applicable; or if there are any new mitigation measures which need to be included into the EA, should the request to extend the commencement period be granted by the DFFE.
- An indication as to whether there are any new assessments/guidelines which are now relevant to the authorised development which were not undertaken as part of the initial assessment, must be taken into consideration and addressed in the report.
- A description and an assessment of any changes to the biophysical environment that has occurred since the EA was issued.
- A description and an assessment of the surrounding environment, in relation to new developments or changes in land use which might impact on the authorised project, the assessment must consider the following:
 - Identified cumulative impacts, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land.

3. Assumptions and Limitations

A field survey was conducted to meet the amendment requirements. The field survey sought to determine site characteristics and conditions to determine any changes from the baseline conditions and previous reports, supplemented by satellite imagery. The survey was conducted on 25 and 26 May 2026, during the early dry season. Although site conditions were dry at the time of the survey, this does not present a limitation for the purposes of this amendment process.

4. Project Description

The Project Area of Influence (PAOI) for the original Bloemsmond Solar PV 2 assessment is shown in Figure 1 below.

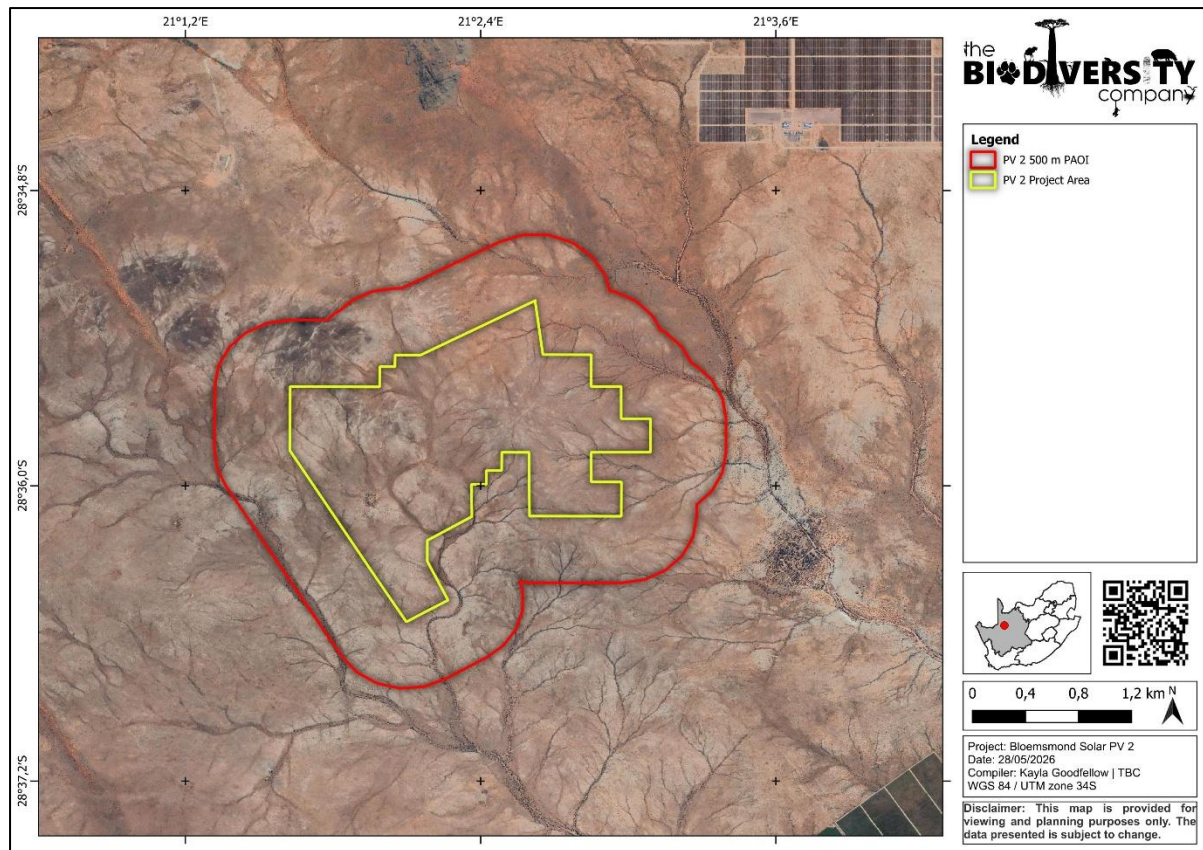


Figure 1 *The Project Area of Influence of Bloemsmond Solar PV 2*

The PAOI, project description and layout remain as authorised in the EA and no changes to the scope are proposed as part of this EA Amendment process (**Error! Reference source not found.**).

The EA authorised project infrastructure includes:

- Solar Technology: Several arrays of PV solar panels;
- Mounting structures to support the PV panels;
- On-site inverters to step up the power and a substation to facilitate the connection between the Solar Facility and the Eskom electricity grid;
- A new 132 kV power line between the on-site substation and the Dyasons Klip Substation (located on the farm Dyasons Klip RE/454);
- Cabling between the project components, to be laid underground where practical;
- Offices and workshop areas for maintenance and storage;
- Temporary laydown areas; and
- Internal access roads and fencing around the development area; and
- A Battery Energy Storage System of up to 500MWh.

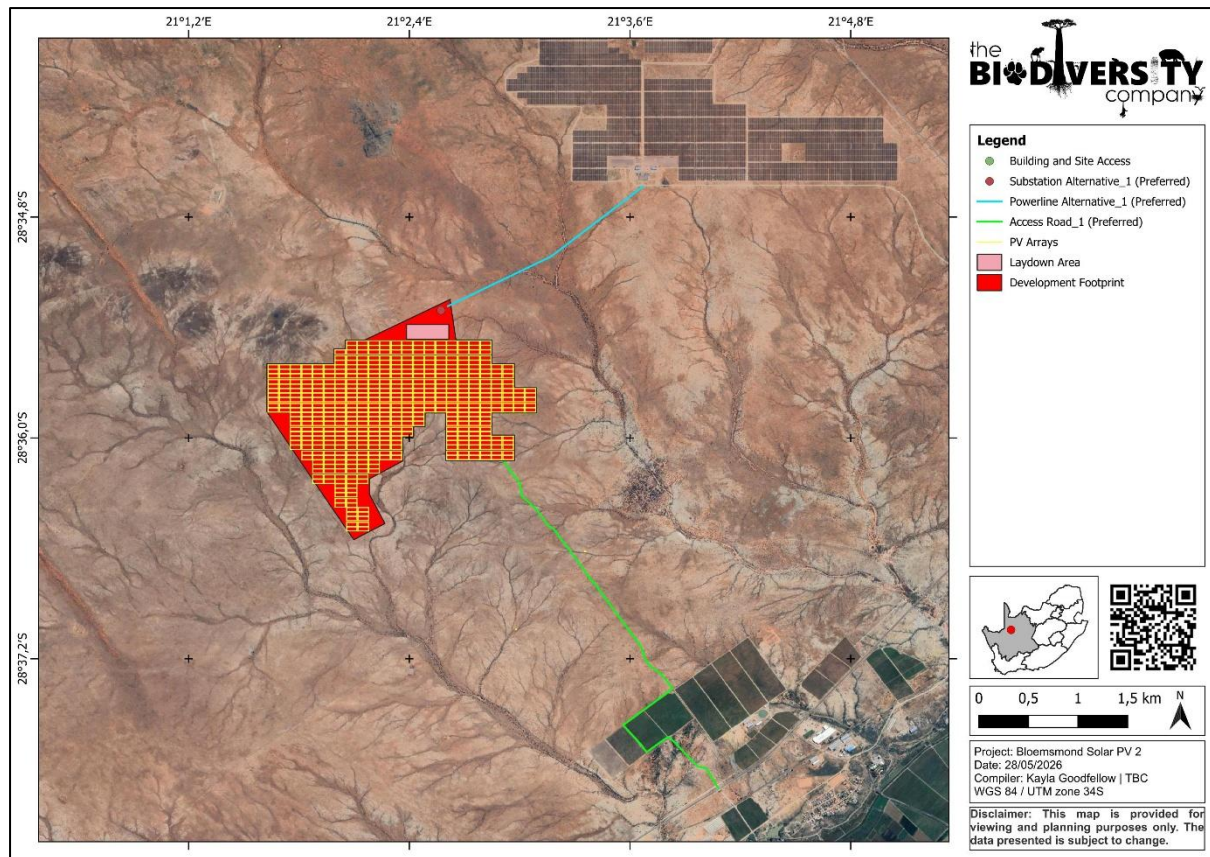


Figure 2 *Layout of Bloemsmond PV 2*

5. Site Baseline and Sensitivity (2015)

The initial 2015 Fauna & Flora Specialist Ecological Impact Assessment (Todd, 2015) and Water Resources Assessment (Scherman Colloty & Associates, 2015) evaluated the ecological importance and sensitivity of the freshwater features within the proposed development area. In addition, an impact assessment was undertaken using the standard assessment methodology.

A summary of the freshwater findings of Todd 2015 is as follows:

- Ephemeral drainage lines were noted within the site and are considered sensitive due to their hydrological and ecological importance. One larger drainage line crosses the solar field area however it is poorly developed near the development footprint.
- Several pans were identified on site, some of which are disturbed and therefore not considered highly sensitive. Certain rock pans that regularly hold water are, however, regarded as conservation priorities however none of these occur within or near the current development footprint, and impacts from the proposed development are therefore unlikely.

Scherman Colloty & Associates summarised the baseline environment and freshwater features as follows in the 2015 assessment:

- The Water Resources Assessment states that the site occurs within an arid landscape characterised by dry alluvial watercourses, minor drainage lines and several endorheic pans.
- No flows were reported within the on-site watercourses during surveys undertaken since 2010, and the systems are described as ephemeral for long periods, even years at a time. No instream

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or aquatic vegetation was observed within the dry channels or pans, while woody riparian/alluvial vegetation associated with drainage features and pans was recorded.

- The larger dry riverbeds and associated riparian systems were considered moderately sensitive to development.
- Two representative freshwater systems were assessed in the report. Site 1, comprising a minor alluvial channel, was rated A/B (Natural to Near Natural) and assigned a Moderate Ecological Importance and Sensitivity (EIS) due to its susceptibility to increased runoff, erosion and sedimentation if disturbed. Site 2, comprising an endorheic pan, was rated B (Near Natural) and assigned a High Ecological Importance and Sensitivity (EIS) because these systems are hydrologically sensitive, susceptible to increased flows, erosion and sedimentation, and are regarded as unique features within the local and regional landscape.
- The assessment states that the pans represent the key freshwater sensitivity constraint on site, and that development should avoid these systems, maintain a 50 m no-go buffer, and ensure that stormwater is not diverted into them.

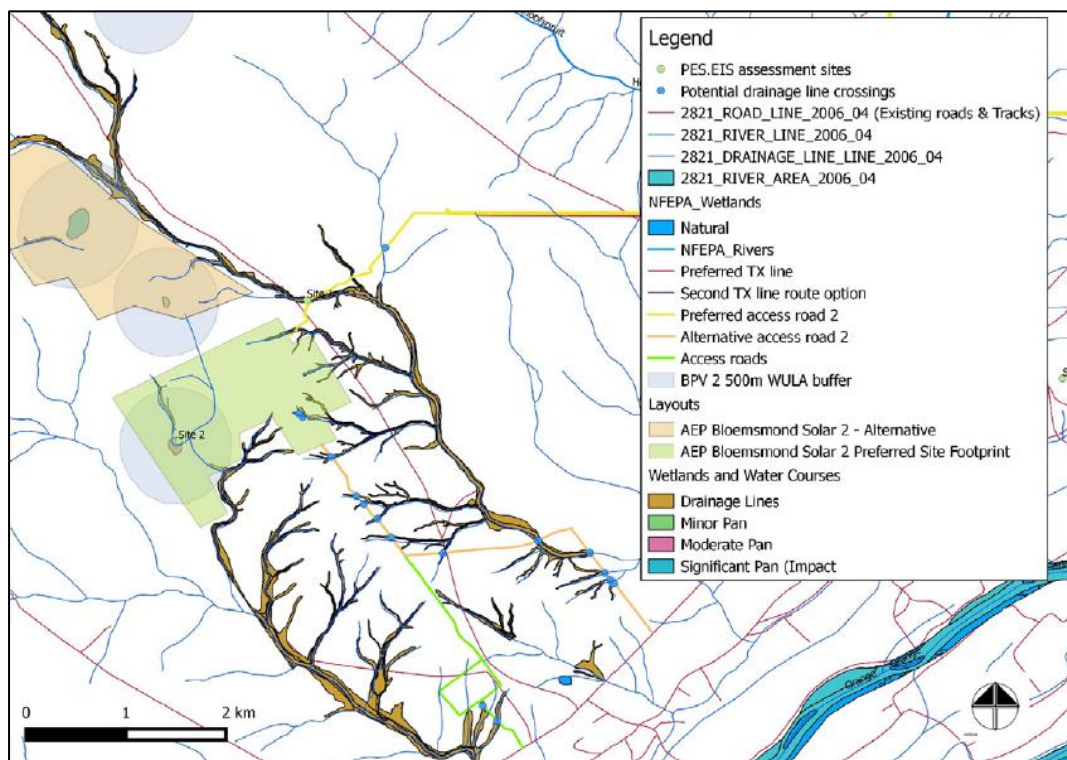


Figure 3 *Freshwater delineation of main rivers, various dry riverbeds, and pans of Bloemsmond PV 2 as described by Scherman Colloty & Associates (2015)*

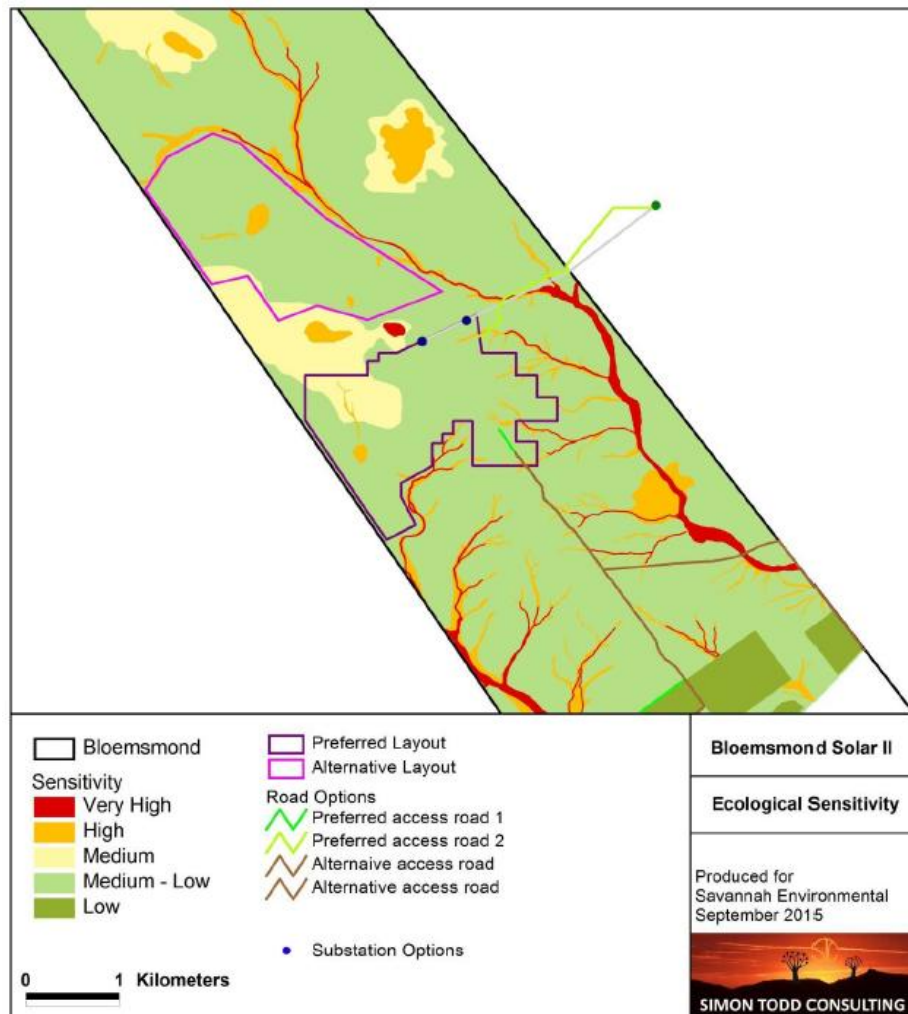


Figure 4 *Ecological sensitivity of Bloemsmond Solar PV 2 as described by Todd (2015)*

6. Site Baseline and Sensitivity (2026)

A specialist from The Biodiversity Company (TBC) undertook a site survey on the 25th and 26th of May 2026. The pictures below were taken during the site visit. One pan was identified along with several drainage features. These drainage features and pan align with those reported by Scherman Colloty & Associates (2015) and Todd (2015).



Figure 5 *Representative photographs of the drainage features and depression wetland identified within Bloemsmond Solar PV 2.*

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6.1 Screening Tool

A screening tool report was generated for the project. Below are the outcomes for the theme:

- Aquatic Biodiversity Theme:
 - Low, due to the absence of freshwater features within the project area;
 - High, due to the presence of a depression wetland (Figure 6).

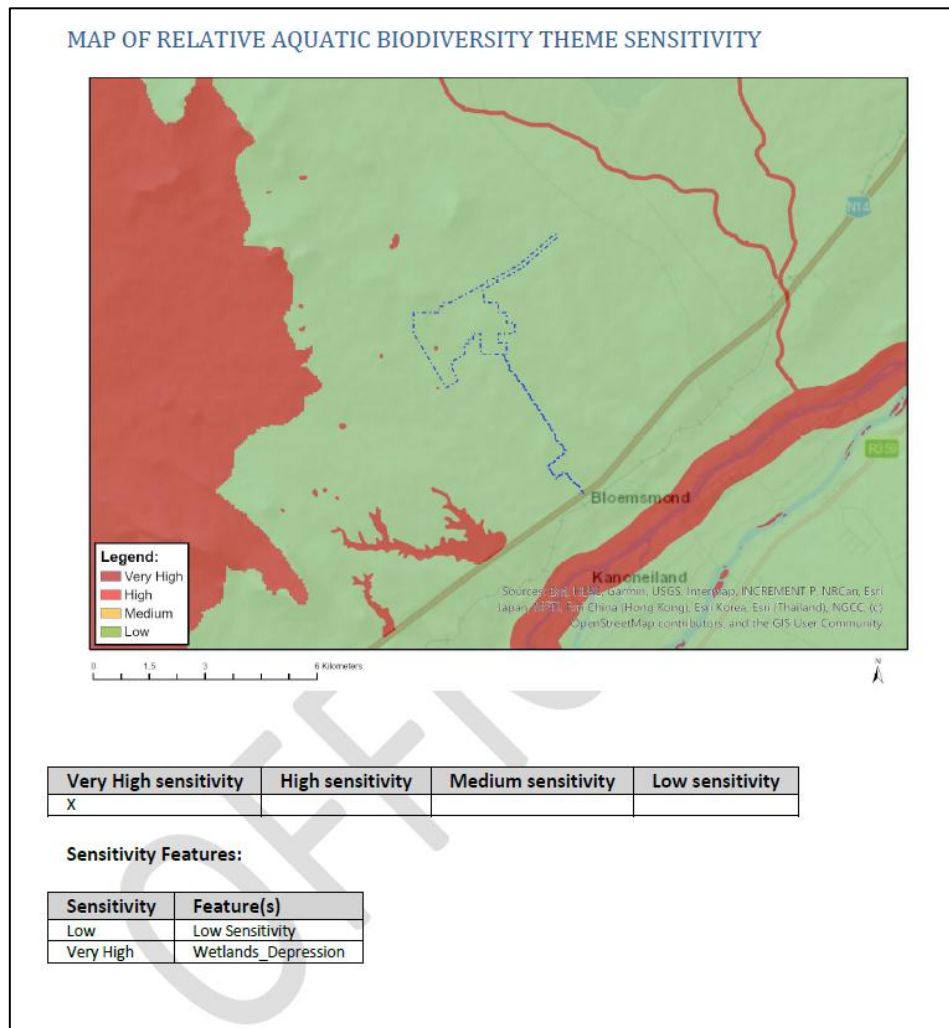


Figure 6 Figure indicating the relative Aquatic Biodiversity Theme Sensitivity as identified by the Environmental Screening Tool for Bloemsmond PV 2

7. Project Impacts

The following is based on the Water Resources Assessment Study undertaken by Scherman Colloty & Associates (2015).

The following impacts were considered for the development of Bloemsmond Solar PV 2:

- Loss of riparian systems;
- Loss endorheic wetland systems;

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- Impact on dry riverbeds and localised drainage systems;
- Impact on riparian systems through the possible increase in surface water runoff on riparian form and function;
- Increase in sedimentation and erosion within the development footprint; and
- Physical disturbance by supporting infrastructure on the riparian environment.

The pre-mitigation and post-mitigation impact ratings for the development are shown in Table 1.

Table 1 *Summary of the impacts associated with the Bloemsmond Solar PV 2 (Development Scherman Colloty & Associates, 2015)*

Nature of the Impact	Status	Impact Significance	Impact Rating	Can impact be mitigated?	Is the impact acceptable?
Loss of riparian systems	Before mitigation	55	High	Yes	Yes
	After mitigation	24	Low		
Loss endorheic wetland systems	Before mitigation	55	High	Yes	Yes
	After mitigation	24	Low		
Impact on dry riverbeds and localised drainage systems;	Before mitigation	45	Medium	Yes	Yes
	After mitigation	24	Low		
Impact on riparian systems through the possible increase in surface water runoff on riparian form and function;	Before mitigation	35	Medium	Yes	Yes
	After mitigation	19	Low		
Increase in sedimentation and erosion within the development footprint;	Before mitigation	30	Medium	Yes	Yes
	After mitigation	18	Low		
Physical disturbance by the supporting infrastructure (roads & transmission lines) on the riparian environment;	Before mitigation	55	Medium	Yes	Yes
	After mitigation	24	Low		

8. Mitigation Measures

The following conditions / mitigation measures are derived from Todd (2015) and Scherman Colloty & Associates (2015) reports. The prescribed mitigation measures and supporting recommendations are considered adequate to achieve an acceptable residual impact and will remain applicable to the requested extension of the Environmental Authorisation (EA):

- Any stormwater within the site will be handled in a suitable manner, i.e. clean and dirty water streams around the plant and install stilling basins to capture large volumes of run-off, trapping sediments and reduce flow velocities;
- Reduce the potential increase in surface flow velocities and the impact on dry riverbeds and the localised drainage system;
- Capture and recycle any form of run-off created by the daily operations. This would minimise the amount of water required by the project, but also serve to limit the downstream impacts on

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the riparian systems through an increase in run-off, a situation that these systems are currently unaccustomed too;

- Strict use and management of all hazardous materials used on site. Considering the extremely low likelihood of surface flows, it is advised that construction activities are suspended until such contaminants are removed from the site if surface flows are observed at or adjacent to the selected site;
- Strict management of potential sources of pollution (hydrocarbons from vehicles and machinery, cement during construction, etc.);
- Strict control over the behaviour of construction workers;
- All areas adjacent to the hard-engineered erosion-control structures provided for this project, which are (accidentally) disturbed and where riparian vegetation was destroyed during the construction activities, should be rehabilitated using appropriate indigenous vegetation;
- Minimise the potential impact of pollutants entering the Gariep River;
- Disturbance near to drainage lines should be avoided and sensitive drainage areas near to the construction activities should demarcated as no-go areas;
- All pans receive a no-go buffer zone of 50 m;
- A low cover of vegetation should be left wherever possible within the construction footprint to bind the soil, prevent erosion, and promote post-disturbance recovery of an indigenous ground cover;
- All roads and other hardened surfaces should have runoff control features which redirect water flow and dissipate any energy in the water which may pose an erosion risk;
- Regular monitoring for erosion after construction to ensure that no erosion problems have developed as result of the disturbance;
- All erosion problems observed should be rectified as soon as possible, using the appropriate erosion control structures and revegetation techniques;
- A cover of indigenous species should be established in disturbed areas in order to bind the soil and prevent erosion; and
- Minimise the loss of riparian and wetland habitat through physical removal and replacement by hard surfaces by avoiding as many of the freshwater features possible.

9. Cumulative Impacts

The cumulative impact assessment was undertaken by a specialist from The Biodiversity Company (TBC) (Table 2).

Table 2 **Cumulative impact assessment**

Nature: Cumulative habitat loss within the region
The development of the proposed infrastructure will partially contribute to cumulative habitat loss within ESAs and thereby impact the ecological processes in the region.

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	Overall impact of the proposed development considered in isolation	Cumulative impact of the project and other projects in the area
Extent	Low (2)	Moderate (3)
Duration	Moderate term (3)	Moderate term (3)
Magnitude	Low (4)	Moderate (6)
Probability	Probable (3)	Probable (3)
Significance	Low	Medium
Status (positive or negative)	Negative	Negative
Reversibility	Moderate	Moderate
Irreplaceable loss of resources?	Yes	Yes
Can impacts be mitigated?	Yes	
Mitigation: Appropriate stormwater management to control runoff, sedimentation and flow velocities, protection of dry riverbeds and drainage systems, avoidance of endorheic pans and 50 m buffer, strict management of hazardous materials and pollution sources, control of construction worker activities, rehabilitation of disturbed riparian areas using indigenous vegetation, and measures to minimise the risk of pollutants entering the Gariep River.		

The quantitative impact of the proposed project in isolation is anticipated to be “Low” with the cumulative impact on aquatic biodiversity is anticipated to be “Medium” (**Error! Reference source not found.**). The layout largely avoids the larger and/or more sensitive drainage features; however, the endorheic pan/depression is not avoided. Should the pans be avoided, the anticipated impact would be Low.

Table 3 Cumulative Impacts to aquatic biodiversity associated with the proposed project

Status	Impact Significance	Impact Rating	Can impact be mitigated?	Is the impact acceptable?
Impact in isolation	27	Low	Yes	Yes
Cumulative impact	36	Medium		

10. Summary of Findings

The table below (**Error! Not a valid bookmark self-reference.**) illustrates the comparisons between the 2015 studies (Scherman Colloty & Associates, 2015; Todd, 2015) and this amendment process.

Table 4 Table depicting the differences between the Simon Scherman Colloty & Associates (2015) and Todd (2015) findings and the current amendment findings

Aspect	Comments and Recommendations	
	Previous Studies (Scherman Colloty & Associates, 2015; Todd, 2015).	Current study
Baseline	Findings: The site occurs within an arid Lower Gariep landscape and is characterised by dry alluvial watercourses, minor drainage lines and several endorheic pans. No flows were observed within the on-site watercourses during surveys undertaken since 2010, indicating strongly ephemeral systems.	Findings: The baseline freshwater environment remains unchanged from that described in the 2015 assessment. The site is still characterised by dry alluvial watercourses, minor drainage lines and endorheic pans, with no perennial freshwater features identified within the development footprint
Sensitivity	Findings: The larger dry riverbeds and associated riparian systems were rated as moderately to highly sensitive to development, while the endorheic pans were rated as highly sensitive.	Findings: The freshwater sensitivity remains as described in the 2015 assessment. The larger dry riverbeds and associated riparian systems remain moderately to highly sensitive, and the endorheic pans highly sensitive. The development layout should continue to avoid major watercourses and wetlands as far as practicable.

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Impacts	Findings: The assessment identified the following key freshwater-related impacts: loss of riparian systems; loss of endorheic wetland systems; impacts on dry riverbeds and localised drainage systems; impacts on riparian systems through increased surface water runoff; increase in sedimentation and erosion; and physical disturbance by supporting infrastructure. With mitigation, all identified impacts reduced to Low significance.	Findings: The freshwater impacts remain unchanged from those identified in the 2015 assessment. With implementation of the prescribed mitigation measures, the residual freshwater impact is still expected to remain Low.
Cumulative Impacts	Findings: No cumulative impacts were assessed.	Findings: The cumulative impact was determined to be Medium.
Conditions	Findings: The report recommended avoidance of significant watercourses and as many smaller drainage lines as possible; all pans receive a no-go buffer zone of 50 m; suitable stormwater management; monitoring of disturbed areas for erosion, scour and plant regrowth; strict management of hazardous materials and pollution sources; rehabilitation of disturbed riparian areas; and selection of the access option with fewer crossings where applicable.	Recommendation: The original freshwater mitigation measures and recommendations remain applicable. No additional freshwater-specific conditions are required, provided that the original avoidance and mitigation measures are retained and implemented.

11. Conclusion

It is the opinion of the specialist that the findings from the original assessments conducted in 2015 (Scherman Colloty & Associates, 2015; Todd, 2015) to be appropriate and relevant with no discrepancies. The appropriate authorities may proceed with the amendment authorisation, provided that the pan is avoided in accordance with the Water Resources Assessment (Scherman Colloty & Associates, 2015), which recommends avoidance of pans and the implementation of a 50 m no-go buffer (Figure 1).

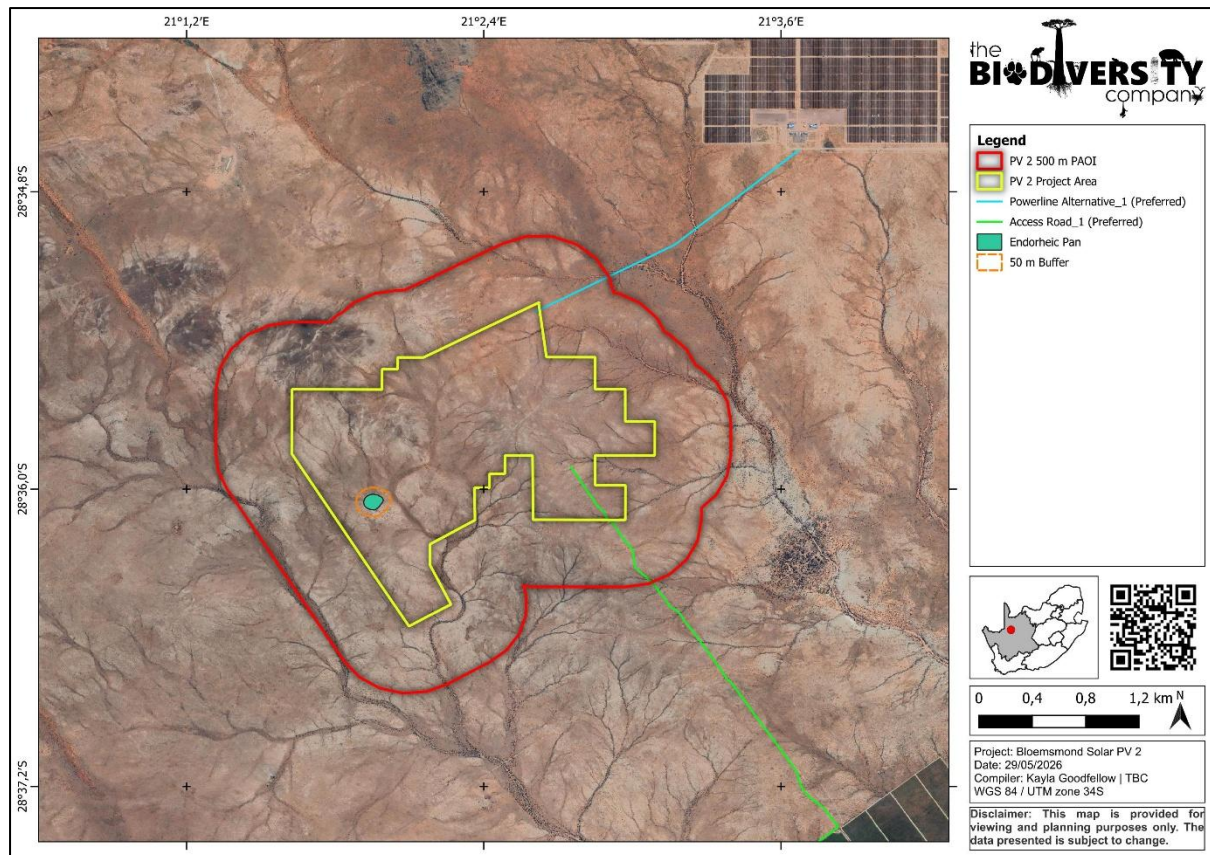


Figure 7 Delineation of endorheic pan and 50 m buffer to be avoided in the final layout

Kind regards,

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May 2026

Reviewer:

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