

ENVIRONMENTAL IMPACT ASSESSMENT PROCESS  
**DRAFT BASIC ASSESSMENT REPORT FOR PUBLIC  
REVIEW**

**PROPOSED THABA ECO HOTEL 100kW PV SOLAR  
SYSTEM, GAUTENG PROVINCE**

**November 2015**

**Prepared for:**

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**Prepared by:**

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## PROJECT DETAILS

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- GDARD Reference No.** : Not yet assigned
- Title** : Draft Basic Assessment Report – Camco Clean Energy 100kW Solar System at Thaba Eco Hotel, Gauteng Province
- Authors** : John von Mayer (Savannah Environmental)  
Thalita Botha (Savannah Environmental)  
Jo-Anne Thomas (Savannah Environmental)
- Client** : Camco Clean Energy (Pty) Ltd
- Report Status** : Draft Basic Assessment Report for Public Review
- Review Period** : 11 November 2015 to 11 December 2015

When used as a reference this report should be cited as: Savannah Environmental (2014) Draft Basic Assessment Report for the Process for the Camco Clean Energy 100kW PV Solar System.

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## **DRAFT BASIC ASSESSMENT REPORT FOR REVIEW**

This Draft Basic Assessment Report has been prepared by Savannah Environmental in order to assess the potential environmental impacts associated with the proposed construction of the Camco Clean Energy 100kW solar system at Thaba Eco Hotel, Gauteng Province. This process is being undertaken in support of an application for Environmental Authorisation. The report is available for public review at the following locations:

- » [www.savannahsa.com](http://www.savannahsa.com)
- » Reception area at Thaba Eco Hotel

The 30-day period for review is **11 November 2015** to **11 December 2015**.  
The due date for public comments is 11 December 2015.

To obtain further information, register on the project database, or submit written comment please contact:

**Gabriele Wood of Savannah Environmental**

Post: PO Box 148, Sunninghill, Johannesburg, 2157

Telephone: 011 656 3237

Fax: 086 684 0547

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## Gauteng Department of Agriculture and Rural Development (GDARD)

### **Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2010 (Version 1)**

List of all organs of state and State Departments where the draft report has been submitted, their full contact details and contact person

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#### Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2010.
  2. This application form is current as of 2 August 2010. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
  3. **A draft Basic Assessment Report must be submitted to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken. The draft reports must be submitted to the relevant State Departments and on the same day, two CD's of draft reports must also be submitted to the Competent Authority (GDARD) with a signed proof of such submission of draft report to the relevant State Departments.**
  4. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.
  5. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
  6. An incomplete report shall be rejected.
  7. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the regulations.
  8. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
  9. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
  10. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
- 

#### **DEPARTMENTAL DETAILS**

Gauteng Department of Agriculture and Rural Development  
Attention: Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch  
P.O. Box 8769  
Johannesburg  
2000

Administrative Unit of the Sustainable Utilisation of the Environment (SUE) Branch  
18<sup>th</sup> floor Glen Cairn Building  
73 Market Street, Johannesburg

Admin Unit telephone number: (011) 355 1345  
Department central telephone number: (011) 355 1900

(For official use only)

File Reference Number:						
Application Number:						
Date Received:						

\* Submission to State Departments (Number 3 above)

Has a draft report for this application been submitted to all State Departments administering a law relating to a matter likely to be affected as a result of this activity?

Is a list of State Departments referred to above been attached to this report?

If no, state reasons for not attaching the list.

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## SUMMARY AND OVERVIEW OF THE PROPOSED PROJECT

### 1.1. Summary of the Proposed Development and Existing Land Use

Camco Clean Energy (Pty) Ltd develops and provides finance for renewable energy across Africa, and is proposing to establish a 100kW solar system on Portion 46 of the farm Rietvlei 101 IR. The proposed development will occur at the Thaba Eco Hotel, located approximately 10km south of Johannesburg CBD and falls within the jurisdiction of the City of Johannesburg Metropolitan Municipality. Currently, the Thaba Eco Hotel consists of a hotel with two guest houses, a conference centre and a restaurant.

The site for the proposed project is currently an agricultural area with special rights. The total footprint proposed for the development is less than 1 ha (refer to Figure 1). The site is surrounded by quartzite ridges of the Klipriviersberg and peak of the Kliprivier Valley and is accessible from Impala road. The main purpose of the project is to generate and supply renewable energy to the Eco Hotel itself. This will ensure energy savings up to 175mWh per year, which will be contributed towards the Thaba Eco Hotel Community Fund.

The associated infrastructure will include:

- » Arrays of Photovoltaic (PV) panels with a generation capacity of up to 100kW;
- » Supporting structures which could be either concrete footings or supporting cables, depending on the geotechnical survey;
- » Cabling between the project components, to be lain in already existing trenches (0.5-1m deep) used for other purposes;
- » On-site storage system (battery) (2m x 5m in size)

Power from the PV panels will be sent to the storage system. Thereafter it can be transferred to the hotel substation to provide power to the hotel.

### 1.2. Legal Requirements

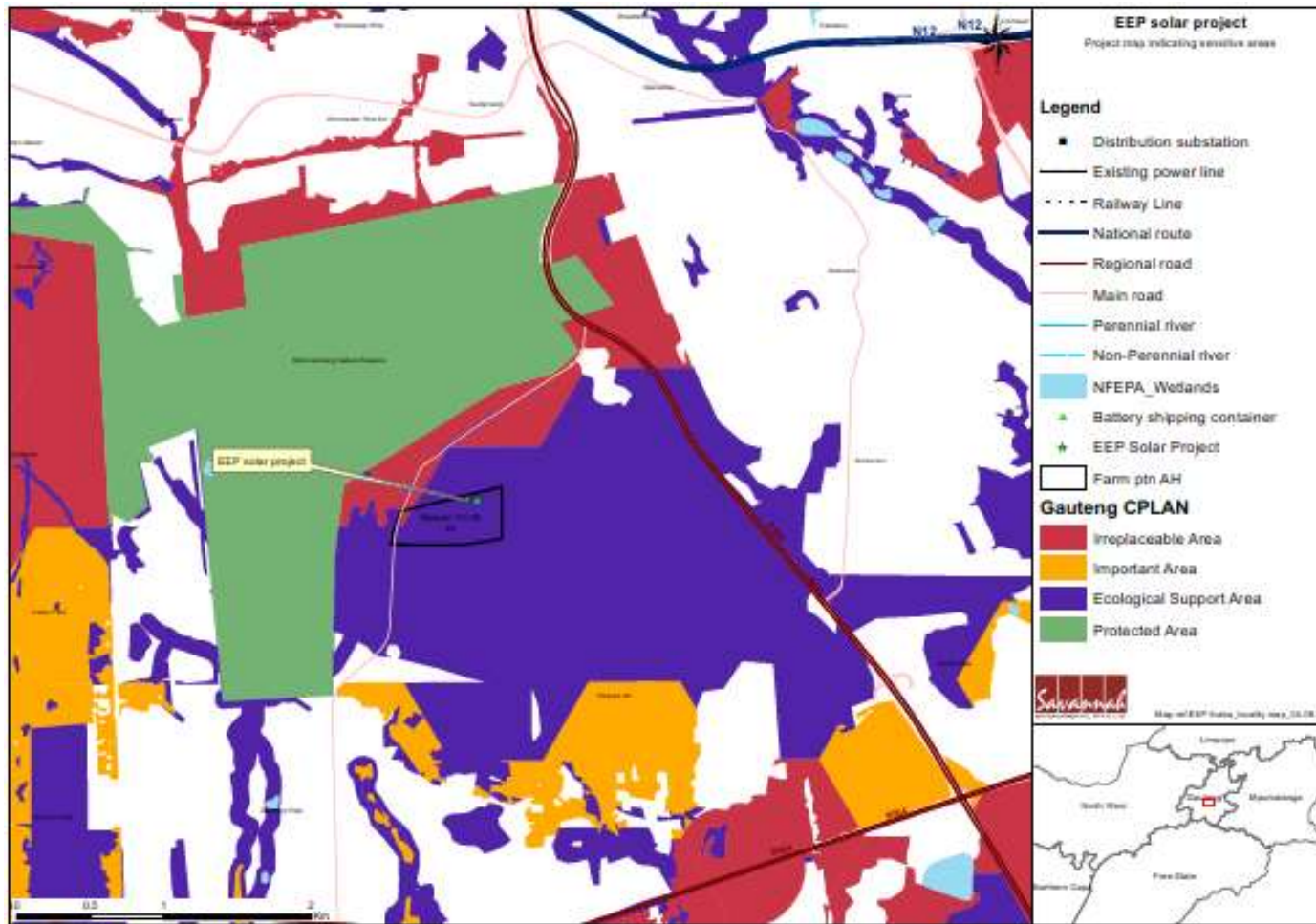
In terms of the EIA Regulations of December 2014 (published in terms of the National Environmental Management Act (NEMA; No. 107 1998), the construction of the proposed PV system would require an environmental authorisation. The proposed development would trigger the following listed activity:

»

»

Item 12 of GNR985: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.	(a) <b>In Eastern Cape, Free State, Gauteng, Limpopo, North West and Western Cape provinces:</b> i. Within critical biodiversity areas identified in bioregional plans;
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This activity is relevant as the site falls within an Ecological Support Area in terms of GDARD's C-Plan, as indicated in Figure 1.



**Figure 1:** Locality map indicating the selected site for the proposed Thaba Eco Hotel 100kW PV Solar System in relation to Gauteng CPLAN area.



An environmental impact assessment is an effective planning and decision-making tool for the project developer as it provides the opportunity for the developer to be forewarned of potential environmental issues and to assess if potential environmental impacts can be avoided, minimised or mitigated to acceptable levels. The Basic Assessment process forms part of the feasibility studies for a proposed project and will inform the final design process in order to ensure that environmentally sensitive areas are avoided as far as possible.

The nature and extent of all components of the proposed project are explored in more detail in this Basic Assessment Report. This report has been compiled in accordance with the requirements of the EIA Regulations and includes details of the activity description; the site, area and property description; the public participation process; the impact assessment; and the recommendations of the Environmental Assessment Practitioner. Comprehensive, independent environmental studies are required in accordance with the EIA Regulations to provide the Gauteng Department of Agriculture and Rural Development (GDARD) with sufficient information in order to make an informed decision.

### **1.3. Details of Environmental Assessment Practitioner and Expertise to Conduct the Basic Assessment Process**

Savannah Environmental was contracted by Camco Clean Energy (Pty) Ltd as the independent environmental consultant to undertake the Basic Assessment process for the proposed solar energy facility. Neither Savannah Environmental, nor any of its specialist sub-consultants on this project are subsidiaries of, or are affiliated to Camco Clean Energy. Furthermore, Savannah Environmental does not have any interests in secondary developments that may arise out of the authorisation of the proposed project.

Savannah Environmental is a specialist environmental consultancy which provides a holistic environmental management service, including environmental assessment and planning to ensure compliance with relevant environmental legislation. Savannah Environmental benefits from the pooled resources, diverse skills and experience in the environmental field held by its team that has been actively involved in undertaking environmental studies for a wide variety of projects throughout South Africa and neighbouring countries. Strong competencies have been developed in project management of environmental processes, as well as strategic environmental assessment and compliance advice, and the assessment of environmental impacts, the identification of environmental management solutions and mitigation/risk minimising measures.

The Savannah Environmental team has considerable experience in environmental impact assessments and environmental management, and have been actively involved in

undertaking environmental studies, for a wide variety of projects throughout South Africa, including those associated with electricity generation, including renewable energy.

The EAPs from Savannah Environmental who are responsible for this project are:

- » *Jo-Anne Thomas* - a registered Professional Natural Scientist and holds a Master of Science degree. She has 17 years' experience consulting in the environmental field. Her key focus is on strategic environmental assessment and advice; management and co-ordination of environmental projects, which includes integration of environmental studies and environmental processes into larger engineering-based projects and ensuring compliance to legislation and guidelines; compliance reporting; the identification of environmental management solutions and mitigation/risk minimising measures; and strategy and guideline development. She is currently involved in undertaking siting processes as well as EIAs for several renewable energy projects across the country.
- » *John von Mayer* - a registered Professional Natural Scientist and the principal author of this report. He holds an Honours Bachelor of Science degree in Environmental Science and has 7 years of experience in environmental management and environmental impact assessment.
- » *Gabriele Wood* - the public participation consultant for this project, hold an Honours Bachelor degree in Anthropology and has 5 years' experience in Public Participation and Social consultancy including professional execution of public participation consulting for a variety of projects as well as managing and coordinating public participation processes for Environmental Impact Assessments (EIA).

Savannah Environmental has gained extensive knowledge and experience on potential environmental impacts associated with electricity generation projects through their involvement in related EIA processes. Savannah Environmental has completed the EIA process and received environmental authorisations for numerous solar energy facilities.

Based on Savannah Environmental's understanding of the scope of the proposed project and experience in similar projects, the following specialists have been appointed to *confirm the potential for impacts and the significance of these impacts*:

- » Ecological impact assessment – Gerhard Botha of Savannah Environmental
- » Heritage assessment (due to the proximity of the project to know Iron Age heritage resources and the extent of the footprint, being larger than 5000m<sup>2</sup>) – Jaco van der Walt of Heritage Contracts and Archaeological Consulting.

Curricula vitae for the Savannah Environmental project team consultants are included in **Appendix I**.

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**SECTION A: ACTIVITY INFORMATION**

**1. Activity Description**

Project title (must be the same name as per application form):

Camco Clean Energy 100kW PV Solar System at Thaba Eco Hotel

Select the appropriate box

The application is for an upgrade of an existing development  The application is for a new development  Other, specify

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	NO
	X

If yes, describe the legislation and the Competent Authority administering such legislation

If yes, have you applied for the authorisation(s)?  
If yes, have you received approval(s)? (attach in appropriate appendix)

YES	NO

**2. Applicable Legislation, Policies and/or Guidelines**

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations.

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
National Environmental Management Act No. 107 of 1998 as amended.	Department of Environmental Affairs, Provincial Authorities	27 November 1998
Environment Conservation Act (Act No 73 of 1989)	Department of Environmental Affairs, Provincial Authorities	9 June 1989
National Water Act (Act No 36 of 1998)	Department of Water	20 August

<b>Title of legislation, policy or guideline:</b>	<b>Administering authority:</b>	<b>Promulgation Date:</b>
	and Sanitation	1998
Minerals and Petroleum Resources Development Act (Act No 28 of 2002)	Department of Mineral Resources	10 October 2002
National Dust Control Regulations (1 November 2013)	Department of Environmental Affairs; Air Emissions Licensing Authorities	1 November 2013
National Heritage Resources Act (Act No 25 of 1999)	South African Heritage Resources Agency	14 April 1999
National Environmental Management: Biodiversity Act (Act No 10 of 2004)	Department of Environmental Affairs, Provincial Authorities,	7 June 2004
Conservation of Agricultural Resources Act (Act No 43 of 1983)	Department of Agriculture, Forestry and Fisheries	21 April 1983
National Forests Act (Act No. 84 of 1998)	Department of Agriculture, Forestry and Fisheries	30 October 1998
National Veld and Forest Fire Act (Act 101 of 1998)	Department of Agriculture, Forestry and Fisheries (DAFF)	27 November 1998
Hazardous Substances Act (Act No 15 of 1973)	Department of Health	4 April 1973
Development Facilitation Act (Act No 67 of 1995)	Local Municipality	20 December 1995
Subdivision of Agricultural Land Act (Act No 70 of 1970)	Department of Agriculture	28 September 1970
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)	Hazardous waste: National Department of Environmental Affairs  General Waste: Provincial Department of Environmental Affairs	1 July 2009
National Road Traffic Act (Act No 93 of 1996)	South African National Roads Agency Limited (national roads)  Provincial Department of Transport	12 November 1996

Title of legislation, policy or guideline:	Administering authority:	Promulgation Date:
Promotion of Access to Information Act (Act No 2 of 2000)	Gauteng Department of Agriculture and rural Development  Department of Environmental Affairs	2000
Promotion of Administrative Justice Act (Act No 3 of 2000)	Gauteng Department of Agriculture and rural Development  Department of Environmental Affairs	2000
Draft Gauteng Nature Conservation Bill	Provincial Department of Environmental Affairs	1 October 2014

### 3. Alternatives

Describe the proposal and alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The determination of whether the site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

**Note:** After receipt of this report the competent authority may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

Provide a description of the alternatives considered

<b>No.</b>	<b>Alternative type</b> , either alternative: site on property, properties, activity, design, technology, operational or other(provide details of "other")	<b>Description</b>
1	Design	Design of the facility to avoid any areas identified by specialists to be high sensitivity or no-go areas. Since no areas of high sensitivity were identified within the proposed development footprint no design alternatives were assessed..
2		
3		

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

The proposed development is planned within an existing developed site. The hotel management and developer mutually agreed upon the selected site to be the only suitable site for the proposed project. As the main purpose of the project is to produce a stable source of power to the Hotel alone, it is required for the system to be installed at the Hotel itself.

Technology alternatives were not assessed. Environmental impacts associated with different types of solar panels will not differ.

**NOTE: The numbering in the above table must be consistently applied throughout the application report and process**

#### 4. Physical Size of the Activity

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	<b>Size of the activity:</b>
Proposed activity	Footprint is approximately 0.1ha
<b>Alternatives:</b>	
Alternative 1 (if any)	
Alternative 2 (if any)	
	Ha/ m <sup>2</sup>

or, for linear activities:



**Length of the activity:**

Proposed activity

**Alternatives:**

Alternative 1 (if any)

Alternative 2 (if any)

k/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

**Size of the site/servitude:**

Proposed activity

**Alternatives:**

Alternative 1 (if any)

Alternative 2 (if any)

Ha/m<sup>2</sup>

**5. Site Access**

**Proposal**

Does ready access to the site exist, or is access directly from an existing road?

<b>YES</b> <b>x</b>	NO
m	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Include the position of the access road on the site plan.

**Alternative 1**

Does ready access to the site exist, or is access directly from an existing road?

YES	NO
m	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Include the position of the access road on the site plan.

**Alternative 2**

Does ready access to the site exist, or is access directly from an existing road?

YES	NO
m	

If NO, what is the distance over which a new access road will be built

Describe the type of access road planned:

Include the position of the access road on the site plan.

**PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives**

Section A 6-8 has been  Number of times duplicated

(only complete when applicable)

## 6. Site or Route Plan

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document. The site or route plans must indicate the following:

- the scale of the plan, which must be at least a scale of 1:2000 ( scale cannot be larger than 1:2000 i.e. scale cannot be 1:2500 but could where applicable be 1:1500)
- the property boundaries and numbers of all the properties within 50m of the site;
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
- the exact position of each element of the application as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, septic tanks, storm water infrastructure and telecommunication infrastructure;
- walls and fencing including details of the height and construction material;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites including (but not limited thereto):
  - Rivers and wetlands;
  - the 1:100 and 1:50 year flood line;
  - ridges;
  - cultural and historical features;
  - areas with indigenous vegetation (even if it is degraded or infested with alien species);
- for gentle slopes the 1m contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and
- the positions from where photographs of the site were taken.

- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the 32m position from the bank to be clearly indicated

**Refer to Appendix A**

**7. Site Photographs**

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under the appropriate Appendix. It should be supplemented with additional photographs of relevant features on the site, where applicable.

**Refer to Appendix B**

**8. Facility Illustration**

A detailed illustration of the activity must be provided at a scale of 1:200 for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity. To be attached in the appropriate Appendix.

**Refer to Appendix C**

## SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

**Note:** Complete Section B for the proposal and alternative(s) (if necessary)

**Further:**

### Instructions for completion of Section B for linear activities

- 1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
- 2) Indicate on a plan(s) the different environments identified
- 3) Complete Section B for each of the above areas identified
- 4) Attach to this form in a chronological order
- 5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route

"insert No. of duplicates"

times

### Instructions for completion of Section B for location/route alternatives

- 1) For each location/route alternative identified the entire Section B needs to be completed
- 2) Each alternative location/route needs to be clearly indicated at the top of the next page
- 3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives (complete only when appropriate)

"insert No. of duplicates"

times

### Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route

(complete only when appropriate for above)

Section B - Location/route Alternative No.

(complete only when appropriate for above)

## 1. Property Description

**Property description:**

The Thaba Eco Hotel comprises a hotel with associated conference centre, restaurant and two guest houses on an intermediate plateau, approximately 10km south of the Central Business District of Johannesburg. The area on which this development has been built is on Portion 46 of the farm Rietvlei 101 IR. The proposed development site is located within this already developed area on the same farm portion.

(Farm name, portion etc.)

## 2. Activity Position

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

**Alternative:**

Preferred (centre of the site)

**Latitude (S):**

**Longitude S:**

26°17'52.60"S

28° 1'41.28"E

**In the case of linear activities:**

**Alternative:**

- Starting point of the activity
- Middle point of the activity
- End point of the activity

**Latitude (S):**

**Longitude E:**

°	°
°	°
°	°

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached



## 3. Gradient of the Site

Indicate the general gradient of the site.

Flat	1:50 – 1:20	1:20 – 1:15	1:15 – 1:10	1:10 – 1:7,5	1:7,5 – 1:5	Steeper than 1:5
------	----------------	----------------	----------------	-----------------	----------------	---------------------

#### 4. Location in Landscape

Indicate the landform(s) that best describes the site.

Ridgeline	Plateau	<b>Side slope of hill/ridge</b>	Valley	Plain	Undulating plain/low hills	River front
-----------	---------	---------------------------------	--------	-------	----------------------------	-------------

#### 5. Groundwater, Soil and Geological Stability of the Site

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	YES	<b>NO X</b>
Dolomite, sinkhole or doline areas	YES	<b>NO X</b>
Seasonally wet soils (often close to water bodies)	YES	<b>NO X</b>
Unstable rocky slopes or steep slopes with loose soil	YES	<b>NO X</b>
Dispersive soils (soils that dissolve in water)	YES	<b>NO X</b>
Soils with high clay content (clay fraction more than 40%)	YES	<b>NO X</b>
Any other unstable soil or geological feature	YES	<b>NO X</b>
An area sensitive to erosion	YES	<b>NO X</b>

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s)

YES	<b>NO X</b>
-----	-----------------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

**Latitude (S):**

**Longitude S:**

°	°
---	---

c) are any caves located within a 300m radius of the site(s)

YES	<b>NO X</b>
-----	-----------------

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

**Latitude (S):**

**Longitude S:**

°	°
---	---

d) are any sinkholes located within a 300m radius of the site(s)

YES	<b>NO</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

**Latitude (S):**

**Longitude S:**

°	°
---	---

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

Not applicable.

## 6. Agriculture

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 3)?

YES	<b>NO</b>
<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Please note:** The Department may request specialist input/studies in respect of the above.

## 7. Groundcover

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

<b>Natural veld – good condition</b> % = 100	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % =

**Please note:** The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site

<b>YES</b> <b>X</b>	NO
------------------------	----

If YES, specify and explain:

Two red data plant species were observed during the ecology survey, i.e. *Boophone disticha* and *Hypoxis hemerocallidea*. Both of these species are sparsely distributed within the development area and can be successfully rescued prior to the commencement of the construction phase. Approval from the relevant authority (GDARD) is required for the species to be transplanted in a suitable habitat.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.

<b>YES</b> <b>X</b>	NO
------------------------	----

If YES, specify and explain:

Two red data plant species were observed during the ecology survey: *Boophone disticha* and *Hypoxis hemerocallidea*. Both of these species are sparsely distributed and can be successfully rescued prior to the commencement of the construction phase. Approval from the relevant authority (GDARD) is required for the species to be transplanted in a suitable habitat.

One reptilian red data species was observed during the site visit, namely the Striped Harlequin Snake. The surrounding rocky outcrops potentially provide habitat. Due to the size of the development, it is highly likely that this species will relocate to the surrounding area and the habitat loss will be limited.

Are there any special or sensitive habitats or other natural features present on the site?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If YES, specify and explain:

N/A

Was a specialist consulted to assist with completing this section

<b>YES</b> <b>X</b>	NO
------------------------	----

If yes complete specialist details

Name of the specialist:	Gerhard Botha		
Qualification(s) of the specialist:	Pr.Sci.Nat 400502/14 (Botanical and Ecological Science)		
Postal address:	PO Box 148 Sunninghill		
Postal code:	2157		
Telephone:	011 656 3237	Cell:	084 207 3454
E-mail:	gerhard@savannahsa.com	Fax:	086 684 0547



Are any further specialist studies recommended by the specialist?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If YES, specify:

If YES, is such a report(s) attached?

YES	NO
-----	----

If YES list the specialist reports attached below

Signature of specialist: 

Date:

**Please note;** If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

### 8. Land Use Character of Surrounding Area

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	2. River, stream, wetland	3. Nature conservation area	4. Public open space	5. Koppie or ridge
6. Dam or reservoir	7. Agriculture	8. Low density residential	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	14. Commercial & warehousing	15. Light industrial
16. Heavy industrial <sup>AN</sup>	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport <sup>N</sup>	23. Train station or shunting yard <sup>N</sup>	24. Railway line <sup>N</sup>	25. Major road (4 lanes or more) <sup>N</sup>
26. Sewage treatment plant <sup>A</sup>	27. Landfill or waste treatment site <sup>A</sup>	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33. Spoil heap or slimes dam <sup>A</sup>	34. Small Holdings	
Other land uses (describe):	<b>35. Hotel and Conference Facilities.</b>			

NOTE: Each block represents an area of 250m X250m

N

W	1, 3, 5	3	1, 3, 5	3, 5	3, 5	E
	1, 3, 5	1, 3, 5	1, 3, 5	3, 5	3, 5, 35	
	1, 3, 5	1, 3, 5	SITE	3, 5	3, 5, 35	
	1, 3, 5	1, 3, 5	1, 3, 5	3, 5	3, 5, 35	
	1, 3, 5	1, 3, 5	1, 3, 5	3, 5	3, 5	
	1, 3, 5	1, 3, 5	1, 3, 5	3, 5	3, 5	
S						

**Note:** More than one (1) Land-use may be indicated in a block

**Please note:** The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached

<b>YES</b>	NO
<b>x</b>	

If yes indicate the type of reports below

Ecological Assessment – Appendix G1  
Heritage Assessment – Appendix G2

### 9. Socio-Economic Context

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

#### Level of unemployment in local municipal area

In terms of unemployment levels, 37% of the population are unemployed. Of the remaining 63% of the working population, 43% are women.

Skilled employment opportunities will be created during the construction phase. During the development phase of the project, new un-skilled employment opportunities will be created, which could potentially be available to on site staff. During the operational phase, the personnel from the Eco Hotel will be responsible for maintaining and upkeep of the PV solar system.

100% of both skilled and unskilled value will accrue to previously disadvantaged individuals during the construction- and development phase.

### **Levels of education**

According to the 2001 census, 29% of adults have a matric qualification and 15% have a primary education. Only 14% of the portion of the population has higher education.

### **Economic profile**

The site selected for the proposed development is situated 10km south of the Johannesburg Central Business District. As the City of Johannesburg is one of the main contributors to the economy of Gauteng, it dominates on both the national- and provincial levels.

Since the project includes the generation of only 100kW of electricity and will be used for the Eco Hotel alone, the contribution to the economy of the City of Johannesburg is considered to be insignificant. However, the costs from the 175mWh anticipated savings per year as a result of the project will be donated towards the Thaba Eco Hotel Community Fund.

### **Conclusion**

The socio-economic impacts of the proposed development are anticipated to be positive in light of the number of employment opportunities to be created and the contribution to the community fund.

## **10. Cultural/Historical Features**

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

*38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development Utilisation as-*

*(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*

*(b) the construction of a bridge or similar structure exceeding 50m in length;*

*I any development or other activity which will change the character of a site-*

*(i) exceeding 5 000 m<sup>2</sup> in extent; or*

*(ii) involving three or more existing erven or subdivisions thereof; or*

*(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*

*(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*

*(d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or*

*I any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.*

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If YES, explain:

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

Specialist heritage investigations were undertaken for the proposed project. The conclusions are presented in a Heritage Impact Assessment included within Appendix D and are summarised below.

During the course of the evaluation of the study area, no significant surface indicators related to archaeological material were identified. Widely dispersed MSA flakes made on quartzite were found, but are too isolated and scattered to be of any significance. It was also determined that no burial ground or graves are present within the development area. However, due to the fact that the survey was done on foot and by vehicle, the possibility remains that graves can occur anywhere on the landscape surrounding the site. It is recommended that a chance find procedure is incorporated within the EMPr for the development.

Will any building or structure older than 60 years be affected in any way?

YES	<b>NO</b> <b>X</b>
YES	<b>NO</b> <b>X</b>

Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?

If yes, please attached the comments from SAHRA in the appropriate Appendix

## **SECTION C: PUBLIC PARTICIPATION**

### **1. Advertisement**

The Environmental Assessment Practitioner must follow any relevant guidelines adopted by the competent authority in respect of public participation and must at least –

- 1(a) Fix a site notice at a conspicuous place, on the boundary of a property where it is intended to undertake the activity which states that an application will be submitted to the competent authority in terms of these regulations and which provides information on the proposed nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations on the application may be made;
- 1(b) inform landowners and occupiers of adjacent land of the applicant's intention to submit an application to the competent authority;
- 1(c) inform landowners and occupiers of land within 100 metres of the boundary of the property where it is proposed to undertake the activity and whom may be directly affected by the proposed activity of the applicant's intention to submit an application to the competent authority;
- 1(d) inform the ward councillor and any organisation that represents the community in the area of the applicant's intention to submit an application to the competent authority;
- 1(e) inform the municipality which has jurisdiction over the area in which the proposed activity will be undertaken of the applicant's intention to submit an application to the competent authority; and
- 1(f) inform any organ of state that may have jurisdiction over any aspect of the activity of the applicant's intention to submit an application to the competent authority; and
- 1(g) place an advertisement in one local newspaper and any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these regulations.

Proof of site notices and adverts placed is included within Appendix E1.
--

### **2. Local Authority Participation**

Local authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority (GDARD).

Has any comment been received from the local authority?

YES	<b>NO</b>
	<b>X</b>

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

Not applicable

If "NO" briefly explain why no comments have been received

No comments on the proposed development have been received from the municipality to date. Comments received on the Draft BAR will be included within the final BAR.

### 3. Consultation with Other Stakeholders

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least thirty (30) calendar days before the submission of the application and be provided with the opportunity to comment.

Has any comment been received from stakeholders?

YES	<b>NO</b>
	<b>X</b>

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

If "NO" briefly explain why no comments have been received

No comments on the proposed development have been received to date. Comments received on the Draft BAR will be included within the final BAR.

### 4. General Public Participation Requirements

The Environmental Assessment Practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local community structures such as Ward Committees and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

The practitioner must record all comments and respond to each comment of the public / interested and affected party before the application is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

Due to the localised nature and extent of the facility and the location within an existing developed site, it is not considered necessary to hold a public meeting. Public consultation will include the following:

- » Distribution of written notification to identified interested and affected parties and stakeholders regarding the project, inviting them to provide comments on the proposed development.
- » Advertisement of the proposed project on site and within a local newspaper (final advert tearsheet to be included in Final BA report)
- » Making the Draft BAR available for public review and comment at public venues within the study area
- » Ongoing telephonic consultation throughout the process

## **5. Appendices for Public Participation**

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice (Included)

Appendix 2 – Written notices issued to those persons detailed in 1(b) to 1(f) above (Included)

Appendix 3 – Proof of newspaper advertisements (Included)

Appendix 4 – Communications to and from persons detailed in Point 2 and 3 above (to be included in Final BAR)

Appendix 5 – Minutes of any public and/or stakeholder meetings (to be included in Final BAR)

Appendix 6 – Comments and Responses Report (to be included in Final BAR)

Appendix 7 – Comments from I&APs on Basic Assessment (BA) Report (to be included in Final BAR)

Appendix 8 – Comments from I&APs on amendments to the BA Report (to be included in Final BAR)

Appendix 9 – Copy of the register of I&APs (Included)

Appendix 10 – Comments from I&APs on the application Report (to be included in Final BAR)

Appendix 11 – Other N/A

**SECTION D: RESOURCE USE AND PROCESS DETAILS**

**Note:** Section D is to be completed for the proposal and alternative(s) (if necessary)

**Instructions for completion of Section D for alternatives**

- 1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
- 4) Each alternative needs to be clearly indicated in the box below
- 5) Attach the above documents in a chronological order

Section D has been duplicated for  times  
 alternatives  
 (complete only when appropriate)

Section D Alternative No.  (complete only when appropriate for above)

**1. Waste, Effluent, and Emission Management**

**Solid waste management**

Will the activity produce solid construction waste during the construction/initiation phase?

<b>YES</b>	NO
<b>X</b>	

If yes, what estimated quantity will be produced per month?

Spoil material comprised mainly of rocks, gravels, sand and silt.	Undetermined, but expected to be minimal due to limited development area
Vegetation	Undetermined, but expected to be minimal due to limited development area
General waste from site personnel	Undetermined, but expected to be minimal due to scale of development



How will the construction solid waste be disposed of (describe)?

Construction waste will comprise mainly of excess spoil material from ground clearing and excavation and trenching activities, vegetation and general waste from site personnel.

**Spoil material** will be removed from the site or re-used to backfill trenches.

**Vegetation** will be removed from the remaining vegetated areas of the site and disposed of at a licensed landfill.

**General waste from site personnel** will be disposed of at bins around the construction site which will be emptied into a skip and transported to the nearest licensed municipal landfill site.

Where will the construction solid waste be disposed of (describe)?

**Spoil material** will be re-used on site as far as possible.

**General waste from site personnel** will be transported to the nearest licensed municipal landfill site after the separation of the recyclable content.

**Vegetation waste** will be removed from site and transported to a nearest licensed municipal landfill or garden waste transfer site.

Will the activity produce solid waste during its operational phase?

YES	<b>NO X</b>
-----	-------------

If yes, what estimated quantity will be produced per month?

N/A
-----

How will the solid waste be disposed of (describe)?

N/A

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity?

N/A	
-----	--

Where will the solid waste be disposed if it does not feed into a municipal waste stream (describe)?

N/A

**Note:** If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If yes, inform the competent authority and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

Describe the measures, if any, that will be taken to ensure the optimal reuse or recycling of materials:

The following is proposed in terms of construction waste:

**Spoil material** will be reused where possible (as backfill or for erosion mitigation works).

**General waste from site personnel** will be transported to the nearest registered landfill site after the separation of the recyclable content.

**Liquid effluent (other than domestic sewage)**

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?

YES	<b>NO</b> <b>x</b>
-----	-----------------------

If yes, what estimated quantity will be produced per month?

M<sup>3</sup>

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?

YES	NO
-----	----

Will the activity produce any effluent that will be treated and/or disposed of on-site?

YES	<b>NO</b> <b>x</b>
-----	-----------------------

If yes, what estimated quantity will be produced per month?

M<sup>3</sup>

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA

Will the activity produce effluent that will be treated and/or disposed of at another facility?

YES	<b>NO</b>
	<b>X</b>

If yes, provide the particulars of the facility:

Facility name:			
Contact person:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

Describe the measures that will be taken to ensure the optimal reuse or recycling of waste water, if any:

--

**Liquid effluent (domestic sewage)**

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?

YES	<b>NO</b>
	<b>X</b>

If yes, what estimated quantity will be produced per month?

M <sup>3</sup>	
----------------	--

If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?

YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?

YES	<b>NO</b>
	<b>X</b>

If yes describe how it will be treated and disposed of.

--

**Emissions into the atmosphere**

Will the activity release emissions into the atmosphere?

YES	<b>NO</b>
	<b>x</b>

If yes, is it controlled by any legislation of any sphere of government?

YES	NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.

If no, describe the emissions in terms of type and concentration:

During the construction phase of the development, there will be localised liberation of dust due to excavations and the hauling and trucking of materials around the site. Localised exhaust emissions will also be generated during construction; however a significant increase in concentrations of hydrocarbons, nitrogen oxides and carbon monoxide is not anticipated.

PV installations convert solar energy into electricity, and therefore no fuel consumption occurs during the operational phase. PV installations produce an insignificant quantity of greenhouse gases over their lifecycle when compared to conventional coal-fired power stations. The operational phase of a solar facility produces little to zero carbon dioxide, sulphur dioxide, mercury, particulates, or any other type of air pollution.

## 2. Water Use

Indicate the source(s) of water that will be used for the activity

Municipal	Directly from water board	groundwater	river, stream, dam or lake	other	<b>the activity will not use water</b> <b>X</b>
-----------	---------------------------	-------------	----------------------------	-------	--

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate

the volume that will be extracted per month:

liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

Does the activity require a water use permit from the Department of Water Affairs?

YES	<b>NO</b> <b>X</b>
-----	-----------------------

If yes, list the permits required

If yes, have you applied for the water use permit(s)?

YES	NO
-----	----

If yes, have you received approval(s)? (attached in appropriate appendix)

YES	NO
-----	----

## 3. Power Supply

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

Not applicable.

If power supply is not available, where will power be sourced from?

Not applicable

#### **4. Energy Efficiency**

Describe the design measures, if any, that have been taken to ensure that the activity is energy efficient:

The activity is in itself an activity that is proposed to generate electricity from a cleaner alternative energy source (i.e. solar radiation).

Describe how alternative energy sources have been taken into account or been built into the design of the activity, if any:

The purpose of a PV installation is to utilise an alternative energy source (i.e. solar radiation) for the production of electricity. Therefore it is not required to consider any additional alternative energy sources.

## **SECTION E: IMPACT ASSESSMENT**

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2006, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

### **1. Issues Raised By Interested and Affected Parties**

Summarise the issues raised by interested and affected parties.

Only registration on database requests have been received to date. Any issues raised on the basis of the findings of the BAR will be included in the Final BAR following the review of this draft BAR.

Summary of response from the practitioner to the issues raised by the interested and affected parties (A full response must be provided in the Comments and Response Report that must be attached to this report):

Only registration on database applicable at this stage. Issues will be included in the final report following the review of this draft BAR.

### **2. Impacts That May Result From the Construction and Operational Phase**

Briefly describe the methodology utilized in the rating of significance of impacts

Impacts identified during the environmental assessment process by way of EAP and specialist identification are allocated an impact status (perceived either positive or negative). The impact is evaluated as low, medium or high impact (positive or negative) before mitigation measures are proposed. The application of mitigation measures identified in order to reduce potential negative impacts to within acceptable standards is indicated. Should mitigation measures be deemed to be effective, the anticipated environmental impacts may be reduced as appropriate. Should a low impact be ascribed or mitigation measures not be considered effective, the post-mitigation significance rating will not change.

High negative impacts after mitigation are not deemed to be acceptable and imply that the impact cannot be mitigated and that the impact must be avoided. Medium negative impacts after mitigation require a higher level of environmental control and monitoring by the applicant. Low negative impacts are deemed to be acceptable and will not result in significant adverse environmental impacts.

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after

mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

**Proposal – 100kW Solar System**

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>Impacts resulting from activities associated with the construction and operation of the PV arrays.</b>			
<b>Ecological impacts</b>			
<b>Habitat degradation</b> There will be loss of vegetation during site clearing and construction activity.	Low	» Limit clearance of natural vegetation to areas where installation of services will occur as far as possible. » Ensure that the clearing of natural vegetation does not extend onto adjacent areas, especially areas of medium-high sensitivity identified in Figure 2. » Construction activities must be restricted to the development footprint.	Low
The Red and Orange Listed Species <i>Hypoxis hemerocallidea</i> and <i>Boophone disticha</i> will be impacted during the construction phase.	Medium	» Both species can be successfully relocated and thus avoiding potential destruction. » Vegetation clearing to commence only after walk through has been conducted and necessary permits obtained.	Low
Increased alien plant invasion during the operation phase. The disturbed and bare ground that is likely to be present at the site after construction will leave the site vulnerable to alien plant invasion for some time.	Medium	» Regular monitoring for alien plants at the site should occur. » When alien plants are detected, these should be controlled and cleared using the recommended control measures for each species to ensure that the problem does not re-occur.	Low
<b>Faunal impacts</b> » Faunal communities will be impacted by the development	Low	» Any fauna directly threatened by the construction activities should	Low

<b>Potential impacts:</b>	<b>Significance rating of impacts:</b>	<b>Proposed mitigation:</b>	<b>Significance rating of impacts after mitigation:</b>
<p>as a result of construction activities and human presence at the site.</p> <p>» Negative faunal impacts due to disturbance, transformation and loss of habitat.</p>		<p>be removed to a safe location by the ECO or other suitably qualified person.</p> <p>» The collection, hunting or harvesting of any plants or animals on the site should be strictly forbidden.</p> <p>» Construction activities must be restricted to the development footprint.</p> <p>» Vegetation clearance must be minimised as far as possible.</p> <p>» Site access should be controlled and no unauthorized persons should be allowed onto the site.</p> <p>» All construction vehicles should adhere to a low speed limit to avoid collisions with susceptible species such as dassies.</p>	
<b>Heritage impacts</b>			
<p>Placement of solar panels and underground cabling will have no significant impact regarding the heritage level.</p>	<p>Low</p>	<p>» Ensure that if heritage material or graves are identified during the construction phase, the operations are stopped and the relevant heritage agency should be informed.</p>	<p>Low</p>
<b>Air quality impacts</b>			
<p>During the construction phase of the development, there will be localized liberation of dust due to excavations and the hauling and trucking of materials around the site.</p>	<p>Medium to low</p>	<p>» Ensure that appropriate dust suppression measures are implemented on site so as to avoid nuisance impacts to existing neighbouring properties.</p> <p>» Ensure construction machinery and vehicles are kept in good working order in order to limit adverse emissions to air.</p>	<p>Low</p>
<b>Waste management impacts</b>			
<p>Pollution of site - litter</p>	<p>Medium</p>	<p>» Bins must be provided in sufficient number and</p>	<p>Low</p>

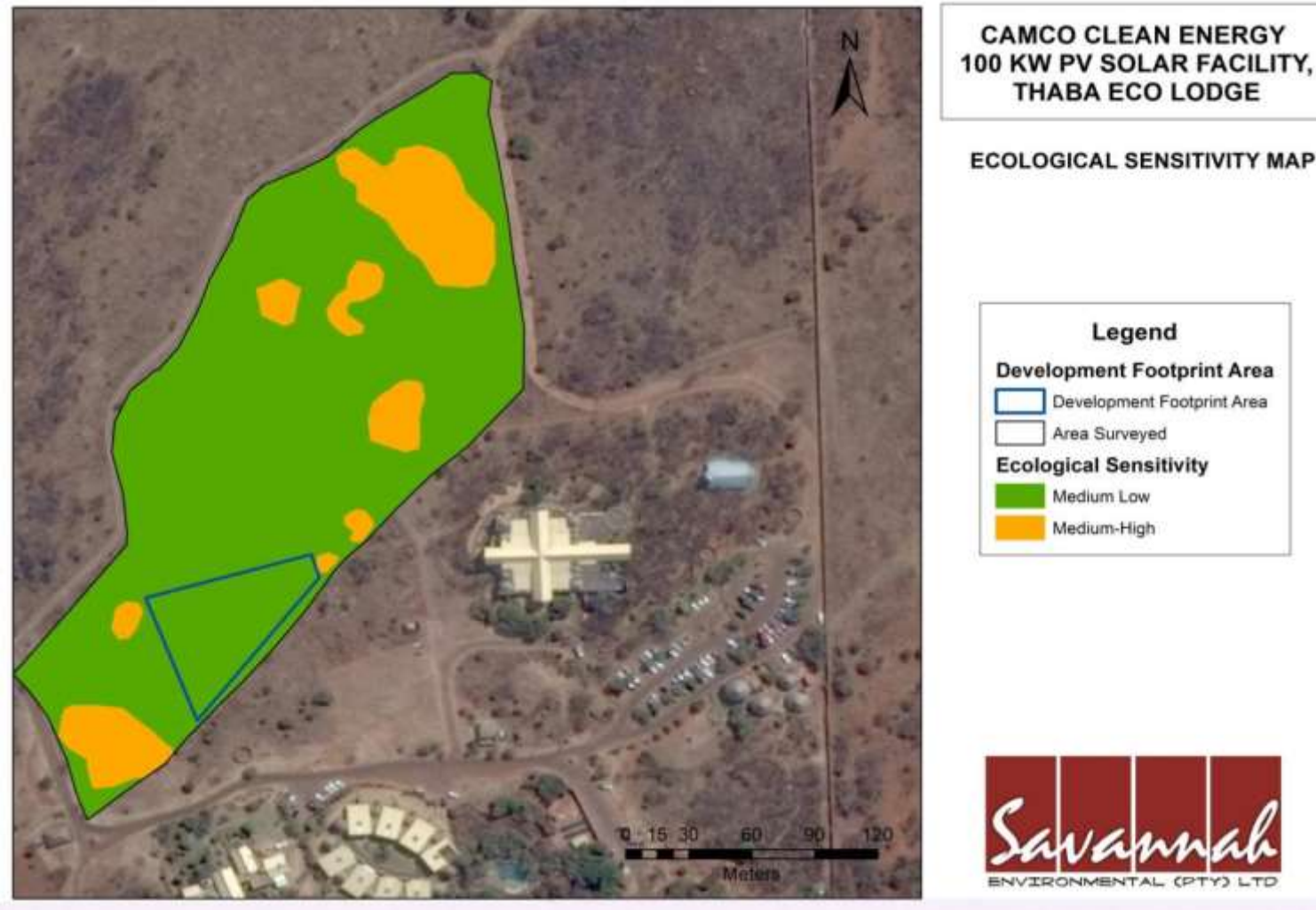


<b>Potential impacts:</b>	<b>Significance rating of impacts:</b>	<b>Proposed mitigation:</b>	<b>Significance rating of impacts after mitigation:</b>
		<p>capacity throughout the construction site in order to store all solid waste produced on a daily basis. These bins must be kept closed and emptied regularly (minimum daily) such that they are not overfilled.</p> <p>» Litter should be collected by the contractor at the end of each day.</p>	
<b>Socio-economic impacts</b>			
<p>» Creation of temporary employment during construction</p> <p>» Locally employed people during the construction phase may learn new skills thereby making them more employable in the future.</p>	<p>Low</p>	<p>» Contractor to encourage the use of local labour during the construction phase.</p> <p>» No mitigation required</p>	<p>Low</p>
<b>Soil Impacts</b>			
<p>» Soil erosion on the construction site during and after the construction phase due to decreased vegetation cover and increased water run-off.</p> <p>» Loss of topsoil caused by poor topsoil management (burial, erosion, etc.) during construction related soil profile disturbance (levelling, excavations, disposal of spoils from excavations etc.).</p>	<p>Medium</p>	<p>» Care must be taken with the ground cover during and after construction on the site. If it is not possible to retain a good plant cover during construction, techniques should be employed to keep the soil covered by other means, i.e. straw, mulch, erosion control mats, etc., until a healthy plant cover is again established. Care should also be taken to control and contain storm-water run-off from the panels.</p> <p>» Strip and stockpile topsoil from all areas where soil will be disturbed. Topsoil should be stored separately from subsoil.</p> <p>» After completion of construction, re-spread topsoil over the surface.</p>	<p>Low</p>

<b>Potential impacts:</b>	<b>Significance rating of impacts:</b>	<b>Proposed mitigation:</b>	<b>Significance rating of impacts after mitigation:</b>
		» Ongoing erosion monitoring and control must be implemented during the operational phase of the facility.	

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

Appendix G1: Ecological Impact Assessment  
Appendix G2: Heritage/Archaeological Impact Assessment



**Figure 2:** Identified sensitive ecological areas in relation to development footprint. Note that the current development layout is considered acceptable in terms of ecological impacts as it avoids all identified areas of medium-high sensitivity.

### 3. Impacts That May Result From the Decommissioning and Closure Phase

Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

#### Proposal

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>No foreseeable change in land use is anticipated to occur within the next 30-50 years. Impacts for decommissioning are likely to be identical to those for construction and the same mitigation must be applied.</b>			

#### Alternative 1

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:

#### Alternative 2

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

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#### 4. Cumulative Impacts

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

Potential impacts:	Significance rating of impacts:	Proposed mitigation:	Significance rating of impacts after mitigation:
<b>Ecological Impacts</b>			
<ul style="list-style-type: none"> <li>» Possible spread and establishment of alien invasive species</li> <li>» Possible excessive fragmentation and thus reduction of core habitats that may negatively influence species population viability.</li> </ul>	Low	<ul style="list-style-type: none"> <li>» Implement an appropriate alien plant management plan throughout the life cycle of the project.</li> <li>» Cumulative impacts of developments on population viability of species can be reduced significantly if different sections of the development be kept as close together as possible.</li> </ul>	Low

#### 5. Environmental Impact Statement

Taking the assessment of potential impacts into account, please provide an environmental impact statement that sums up the impact that the proposal and its alternatives may have on the environment after the management and mitigation of impacts have been taken into account with specific reference to types of impact, duration of impacts, likelihood of potential impacts actually occurring and the significance of impacts.

##### Proposal

This section provides a summary of the environmental assessment and conclusions drawn for the proposed solar energy facility. In doing so, it draws on the information gathered as part of the Basic Assessment process and the knowledge gained by the environmental consultants during the course of the process and presents an informed opinion of the environmental impacts associated with the proposed project.

The following conclusions can be drawn from the studies undertaken within this Basic Assessment:

- » The overall impact on **ecology** as a result of the construction and operation of

the proposed facility is likely to be of **low significance**. The site for the proposed Solar System is situated in a Medium-Low Sensitive area. The proposed site falls within the Andesite Mountain Bushveld. Within this vegetation type the Klipriver Highveld Grassland ecosystem is classified as critically endangered. According to the Ecological Specialist Report, the development will have little effect on the status and original extent of the Klipriver Highveld Grassland ecosystem. This is due to the relatively small size of the footprint area, the location of the development site that is an already disturbed area and the restricted ability to contribute to the general functioning of this ecosystem. Two Red and Orange listed species have been recorded at the site namely *Hypoxis hemerocallidea* and *Boophone disticha*. Both of these species were sparsely distributed within the development area. It is recommended that these species should be removed and transplanted outside the development footprint in another suitable habitat prior to the commencement of construction. The site has a relatively low ecology sensitivity and development in this area is not likely to generate any impacts of broader significance and with standard environmental good practice, no highly significant ecological impacts can be expected to occur.

- » With regards to the **Archaeological Impact Assessment**, it was established that there will be a **low** archaeological impact. Isolated Middle Stone Age (MSA) surface scatters are spread over the extent of the proposed solar system site. These are not considered significant from an archaeology perspective. Apart from the MSA flakes, no other archaeological material was identified.
- » The potential significance of **air quality (dust) impacts** was rated as having a **low significance** largely due to the nature of the development proposed that will not release emissions into the atmosphere other than exhaust emissions (from haulage vehicles and operation equipment) and dust associated with movement of vehicles on site and wind erosion during construction. In addition, the effects from the proposed development are considered minor.
- » During its operation phase, the facility will generate general **waste**. Mishandling of waste on site may result in environmental pollution. The impact is expected to be **medium**, which can be reduced to low impact through the implementation of appropriate mitigation.
- » The overall **social impact** of the project is likely to be of a predominantly **low** significance (**positive impact**) with the implementation of appropriate enhancement measures. The project will create employment opportunities for locals during the construction phase of the project and could result skills being developed which could be beneficial in the long-term.
- » The proposed activity will have a **low-medium impact** on the immediate and surrounding **soil** in terms of erosion potential and resource loss. Implementation and management of proposed mitigation measures will minimise loss of topsoil, prevent contamination of topsoil and stockpiled soil

and prevent overall soil erosion.

- » Renewable energy projects contribute to clean energy generation as a sustainable resource and holds huge benefits for the local region and the country as a whole from the perspective of reduced air emissions and sustainability.

Overall, the proposed development is expected to have a low impact on the environment. No environmental fatal flaws were identified to be associated with the project and no impacts of high significance will result. Mitigation measures recommended must be included within the project EMPr in order to ensure the appropriate management of impacts throughout the life cycle of the facility.

#### Alternative 1

#### Alternative 2

#### **No-go (compulsory)**

Also referred to as the 'Do nothing' option, this refers to Camco Clean Energy (Pty) Ltd not constructing their proposed solar energy system on the identified site. In this scenario the potential positive and negative environmental and social impacts as described in this Basic Assessment Report will not occur and the current situation will be maintained. In this event, electricity will continue to be obtained from the municipality, and therefore the cost of the 175mWh anticipated savings per year will not be donated towards the Thaba Eco Hotel Community Fund. This lost opportunity is considered as a negative impact. As the significance of all environmental impacts associated with the project are low to negligible after mitigation, the costs associated with the do noting alternative are considered to outweigh the benefits. Therefore, this alternative is not supported.

### **6. Impact Summary of the Proposal or Preferred Alternative**

For proposal:

The proposal is the most suitable alternative for the development as the main purpose of the project is to produce a stable source of power to the hotel alone and thus requires for the site to be located at the hotel itself. The site avoids all identified areas of high sensitivity and is therefore considered to be appropriate, specifically in terms of ecology. All the impacts are of low significance after mitigation measures are applied.

For alternative:

Since no areas of high sensitivity were identified within the development footprint

(Figure 2) no design alternatives are considered necessary. The current layout and design is considered to be acceptable from an environmental perspective.

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

The proposal is the most suitable alternative for the development as the main purpose of the project is to produce a stable source of power to the hotel alone and thus requires for the site to be located at the hotel itself. The site avoids all identified areas of high sensitivity and is therefore considered to be appropriate, specifically in terms of ecology. With the implementation of the necessary mitigation measures, all the identified impacts can be considered of low significance. Therefore, the proposal can be considered to be environmentally acceptable. Since no areas of high sensitivity were identified on site, no design alternatives are considered necessary, the current layout and design is considered to be acceptable from an environmental perspective.



## 7. Recommendation of Practitioner

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the Environmental Assessment Practitioner).

<b>YES</b> <b>x</b>	NO
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If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):


If "YES", please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the competent authority in respect of the application:

There are no identified environmental constraints that will prevent the establishment of the proposed Camco Clean Energy 100kW PV solar system. It is recommended that the project be authorized.

The Heritage Impact Assessment identified dispersed MSA flakes within the development area. Since the MSA flakes prove to be of no significance, it is not considered to be a sensitive area. However, if archaeological heritage material and human remains are uncovered during construction, all work must cease immediately and be reported to the South African Heritage Resources Agency (SAHRA) so that systematic and professional investigation/ excavation can be undertaken.

The Ecology Impact Assessment identified two Red and Orange listed species. It is recommended that these species should be removed and transplanted outside the development area prior to the commencement of construction. Approval from the relevant authority (GDARD) should be obtained before the commencement of the construction phase to avoid destruction of these species.

Design, construction and operational phase:

- » During construction, unnecessary disturbance to habitats should be strictly controlled and the footprint of the impact should be kept to a minimum.
- » Adequate measures to collect, remove and safely dispose of waste must be implemented during all phases of the development. Waste handling facilities must be provided during construction.
- » Appropriate erosion control measures must be implemented throughout the life of the facility.

» An appropriate alien plant management plan must be implemented for the site.

### **8. Environmental Management Programme (EMPr)**

If the EAP answers yes to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached

YES

## **SECTION F: APPENDICES**

The following appendixes must be attached as appropriate:

It is required that if more than one item is enclosed that a table of contents is included in the appendix

<b>Appendix A:</b> Site plan(s)
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Attached

<b>Appendix B:</b> Photographs
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Attached

<b>Appendix C:</b> Facility illustration(s)
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Attached as Appendix A

<b>Appendix D:</b> Route position information
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Not applicable

<b>Appendix E:</b> Public participation information
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**Appendix E1 – Proof of site notice**

Attached

**Appendix E2 – Written notices issued to those persons detailed in 1(b) to 1(f) above**

Attached

**Appendix E3 – Proof of newspaper advertisements**

Attached

**Appendix E4 – Communications to and from persons detailed in Point 2 and 3 above**

Attached

**Appendix E5 – Minutes of any public and/or stakeholder meetings**

N/A

**Appendix E6 – Comments and Responses Report**

N/A – will be attached in final BAR

**Appendix E7 –Comments from I&Aps on Basic Assessment (BA) Report**

N/A – will be attached in final BAR

**Appendix E8 –Comments from I&Aps on amendments to the BA Report**

N/A

**Appendix E9 – Copy of the register of I&Aps**

Attached

**Appendix E10 – Comments from I&Aps on the application**

Attached

**Appendix E11 – Other**

N/A

**Appendix F:** Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Not applicable

**Appendix G:** Specialist reports

**Appendix G1:** Ecology Report

**Appendix G4:** Heritage/Archaeological Impact Assessment

**Appendix H:** EMPr

Draft EMPr attached

**Appendix I:** Other information

CVs of project team

**CHECKLIST**

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed; and