EA ENERGY
EAB-ASTRUM ENERGY (PTY) LTD

EAB-Astrum Energy (Pty) Ltd
Smart Xchange Centre, 1st Floor
5 Walnut Road, Durban, 4001

FINAL BASIC ASSESSMENT REPORT FOR THE PROPOSED CONSTRUCTION OF A PHOTOVOLTAIC POWER PLANT ON THE FARM MERINO 1487 IN THE FREE STATE PROVINCE

Submitted by:

Aurecon South Africa (Pty) Ltd
Aurecon Centre, Lynnwood Bridge Office Park,
4 Daventry Street, Lynnwood Manor,
Pretoria, 0081, South Africa
Tel: +27 12 427 2000
Fax: +27 12 427 2010
website: www.aurecongroup.com

aurecon

November 2011

REPORT DETAILS

NEAS REFERENCE	:	DEA/EIA/0000519/2011
DEA REFERENCE	:	12/12/20/2423
TITLE	:	Basic Assessment Report for the proposed development of a Photovoltaic Power Plant on Farm Merino 1487- Free State Province
PROJECT NAME	:	Development of PV Power Plant
AUTHOR(S)	:	Barend Smit Natanya Whitehorn Roshantha Kolapen
CLIENT	:	EAB-Astrum Energy (Pty) Ltd
CONSULTANT	:	Aurecon (Pty) Ltd Aurecon Centre, Lynnwood Bridge Office Park, 4 Daventry Str, Lynnwood Manor, 0081, Tel: (012) 427-2000 Fax: 086 574 2929 E-mail: Natanya.whitehorn@aurecongroup.com
AURECON PROJECT NUMBER	:	107450
REPORT STATUS	:	Final
DATE OF SUBMISSION	:	March 2012

BHJ Smit Pr L Arch
Project Director

N Whitehorn
Project Manager

APPLICATION FORM

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPLICATION FORM FOR ENVIRONMENTAL AUTHORISATION

	(For official use only)
File Reference Number:	12/12/20/2423
NEAS Reference Number:	DEAT/EIA/0000519/2011
Date Received:	

Application for authorisation in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2010

PROJECT TITLE

Development of a Photovoltaic Plant on the Farm Merino 1487

Kindly note that:

1. This application form is current as of 2 August 2010. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority.

2. The application must be typed within the spaces provided in the form. The sizes of the spaces provided are not necessarily indicative of the amount of information to be provided. Spaces are provided in tabular format and will extend automatically when each space is filled with typing.

3. Where applicable black out the boxes that are not applicable in the form.

4. Incomplete applications may be returned to the applicant for revision.

5. The use of the phrase "not applicable" in the form must be done with circumspection. Should it be done in respect of material information required by the competent authority for assessing the application, it may result in the rejection of the application as provided for in the Regulations.

6. This application must be handed in at the offices of the relevant competent authority as determined by the Act and regulations.

7. No faxed or e-mailed applications will be accepted.

8. Unless protected by law, all information filled in on this application will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this application on request, during any stage of the application process.

9. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

Queries must be addressed to the contact hereunder:

Departmental Details

Postal address:
Department of Environmental Affairs
Attention: Director: Environmental Impact Evaluation
Private Bag X447
Pretoria
0001

Physical address:
Department of Environmental Affairs
Fedsure Forum Building (corner of Pretorius and Van der Walt Streets)
2nd Floor North Tower
315 Pretorius Street
Pretoria
0002

Queries should be directed to the Directorate: Environmental Impact Evaluation at:

Tel: 012-310-3268
Fax: 012-320-7539

Please note that this form must be copied to the relevant provincial environmental department/s.

View the Department's website at http://www.deat.gov.za/ for the latest version of the documents.

SITE IDENTIFICATION AND LINKAGE

Please indicate all the Surveyor-general 21 digit site (erf/farm/portion) reference numbers for all sites (including portions of sites) that are part of the application.

F	0	0	1	0	0	0	0	0	0	0	0	1	4	8	7	0	0	0	0	2

(if there are more that 6, please attach a list with the rest of the numbers)
(These numbers will be used to link various different applications, authorisations, permits etc. that may be connected to a specific site)

PROJECT TITLE

Development of a Photovoltaic Plant on the Farm Merino 1487

1. BACKGROUND INFORMATION

Project applicant:	EAB-Astrum Energy (Pty) Ltd		
Trading name (if any):	N/A		
Contact person:	Yegis Reddy		
Physical address:	Smart Xchange Centre, 5 Walnut Road, Durban, 4001		
Postal address:	P.O. Box 3619, Durban		
Postal code:	4001	Cell:	Not Available
Telephone:	031 301 6444	Fax:	086 698 0283
E-mail:	yegis@eaenergy.co.za		

Provincial Authority:	Department of Economic Development, Tourism and Environmental Affairs (Free State)		
Contact person:	Ms Grace Mkhosana		
Postal address:	Private Bag X20801, Bloemfontein		
Postal code:	9300	Cell:	Not Available
Telephone:	051 400 4843	Fax:	051 400 4842
E-mail:	mkhosana@dteea.fs.gov.za		

Landowner:	Bethlehem Hydro (Pty) Ltd		
Contact person:	PG Needham		
Postal address:	P.O. Box 35650, Menlopark		
Postal code:	0102	Cell:	Not Available
Telephone:	012 349 2944	Fax:	012 349 2735
E-mail:	al@nuplanet.co.za		

In instances where there is more than one landowner, please attach a list of landowners with their contact details to this application.

Local authority in whose jurisdiction the proposed activity will fall:	Dihlabeng Local Municipality		
Nearest town or districts:	Bethlehem and Clarens		
Contact person:	Ms. Angela Mosima		
Postal address:	P.O. Box 551, Bethlehem		
Postal code:	9700	Cell:	Not Available
Telephone:	058 303 5732	Fax:	058 303 4073
E-mail:	Not Available		

In instances where there is more than one local authority involved, please attach a list of local authorities with their contact details to this application.

2. ACTIVITIES APPLIED FOR TO BE AUTHORISED

2.1 For an application for authorisation that involves more than one listed or specified activity that, together, make up one development proposal, all the listed activities pertaining to this application must be indicated.

Indicate the number and date of the relevant notice:	Activity No (s) (in terms of the relevant notice) :	Describe each listed activity as per project description[1]:
544, 18 June 2010	1(ii)	Development of a Photovoltaic power plant generating 3.1MW of power on an area 7.34 ha in size.

Please note that any authorisation that may result from this application will only cover activities specifically applied for.

2.2 A project schedule, indicating the different phases and timelines of the project, must be attached to this application form.

3. OTHER AUTHORISATIONS REQUIRED

3.1 DO YOU NEED ANY AUTHORISATIONS IN TERMS OF ANY OF THE FOLLOWING LAWS?

3.1.1 National Environmental Management: Waste Act	~~Yes~~/No
3.1.2 National Environmental Management: Air Quality Act	~~Yes~~/No
3.1.3 National Environmental Management: Protected Areas Act	~~Yes~~/No
3.1.4 National Environmental Management: Biodiversity Act	~~Yes~~/No
3.1.5 Mineral Petroleum Development Resources Act	~~Yes~~/No
3.1.6 National Water Act	Yes/~~No~~
3.1.7 National Heritage Resources Act	Yes/~~No~~
3.1.8 Other (please specify)	~~Yes~~/No

3.2 Have such applications been lodged already?

Note:

- Authorisation for 3.1.6 is in progress
- Paleontological Impact Assessment has been conducted
- Archaeological & Heritage Impact Assessment has been conducted

[1] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description

DECLARATIONS

4.1 The Applicant

I, Yegis Reddy ,declare that I -

- am, or represent[1], the applicant in this application;
- have appointed / will appoint (delete that which is not applicable) an environmental assessment practitioner to act as the independent environmental assessment practitioner for this application / will obtain exemption from the requirement to obtain an environmental assessment practitioner[2];
- will provide the environmental assessment practitioner and the competent authority with access to all information at my disposal that is relevant to the application;
- will be responsible for the costs incurred in complying with the Environmental Impact Assessment Regulations, 2010, including but not limited to –
  - costs incurred in connection with the appointment of the environmental assessment practitioner or any person contracted by the environmental assessment practitioner;
  - costs incurred in respect of the undertaking of any process required in terms of the Regulations;
  - costs in respect of any fee prescribed by the Minister or MEC in respect of the Regulations;
  - costs in respect of specialist reviews, if the competent authority decides to recover costs; and
  - the provision of security to ensure compliance with conditions attached to an environmental authorisation, should it be required by the competent authority;
- will ensure that the environmental assessment practitioner is competent to comply with the requirements of these Regulations and will take reasonable steps to verify whether the EAP complies with the Regulations;
- will inform all registered interested and affected parties of any suspension of the application as well as of any decisions taken by the competent authority in this regard;
- am responsible for complying with the conditions of any environmental authorisation issued by the competent authority;
- hereby indemnify the Government of the Republic, the competent authority and all its officers, agents and employees, from any liability arising out of the content of any report, any procedure or any action which the applicant or environmental assessment practitioner is responsible for in terms of these Regulations;
- will not hold the competent authority responsible for any costs that may be incurred by the applicant in proceeding with an activity prior to obtaining an environmental authorisation or prior to an appeal being decided in terms of these Regulations;
- will perform all other obligations as expected from an applicant in terms of the Regulations;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 71 and is punishable in terms of section 24F of the Act.

Reddy

Signature of the applicant[3] / Signature on behalf of the applicant:

EAB ASTRUM ENERGY (PTY) LTD

Name of company (if applicable):

23/08/2011

Date:

[1] If this is signed on behalf of the applicant, proof of such authority from the applicant must be attached.
[2] If exemption is obtained from appointing an EAP, the responsibilities of an EAP will automatically apply to the person conducting the environmental impact assessment in terms of the Regulations.
[3] If the applicant is a juristic person, a signature on behalf of the applicant is required as well as proof of such authority. An EAP may not sign on behalf of an applicant.

Annexure A:
Project Schedule

PROJECT PLAN FOR ENVIRONMENTAL PROCESS - MERINO

	Month	Aug-11				Sep-11				Oct-11				Nov-11				Dec-11				Jan-12				Feb-12				Mar-12				Apr-12				May-12				Jun-12				Jul-12				Aug-12				Sep-12			
Action	Week	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Application notice																																																							
2	Pre-Application Meeting																																																							
3	DEA acceptance of Application Notice & Ref No																																																						
4	Initial Site Visit																																																						
5	Preparation of BID																																																						
6	Review by Applicant																																																						
7	Advertisement & BID - Registration of I&APs (30 days)																																																						
8	Writing of Draft Basic Assessment Report (BAR)																																																						
9	Writing of Draft Enviromental Management Plan (EMP)																																																						
10	Review by Applicant																																																						
11	DBAR made avaliable for I&AP Review (40 days)																																																						
12	Writing Final Basic Assessment Report (BAR)																																																						
13	Submission of FBAR to DEA																																																						
14	Make FBAR available for I&AP Review (30 days)																																																						
15	DEA review & decision making time (75 days)																																																						
16	Appeals Period (20 days)																																																						

BASIC ASSESSMENT REPORT

BASIC ASSESSMENT REPORT

	(For official use only)
File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2010, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

Kindly note that:

1. This basic assessment report is a standard report that may be required by a competent authority in terms of the EIA Regulations, 2010 and is meant to streamline applications. Please make sure that it is the report used by the particular competent authority for the activity that is being applied for.

2. 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.

3. Where applicable tick the boxes that are applicable in the report.

4. An incomplete report may be returned to the applicant for revision.

5. 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.

6. This report must be handed in at offices of the relevant competent authority as determined by each authority.

7. No faxed or e-mailed reports will be accepted.

8. The report must be compiled by an independent environmental assessment practitioner.

9. Unless protected by law, all information in the report will become public information on receipt by the competent authority. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

10. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.

11. Should a specialist report or report on a specialised process be submitted at any stage for any part of this application, the terms of reference for such report must also be submitted.

SECTION A: ACTIVITY INFORMATION

Has a specialist been consulted to assist with the completion of this section?		NO ✔

If YES, please complete the form entitled "Details of specialist and declaration of interest" for appointment of a specialist for each specialist thus appointed:
Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail[1]:

The activity applied for is the Development of a Photovoltaic Plant (PV) on the farm Merino 1487, Clarens, Free State Province. The project would entail the construction of a PV Power Station that will consist of roughly 1300 racks that will produce approximately 6MW of electricity. The PV plant will convert the solar energy into electrical energy via crystalline silicone cells, which will then be fed into the existing 22kV power line infrastructure of the Merino Hydro Power Plant located on the same site. Power so generated will be sold to ESKOM and the Dihlabeng Municipality.

2. FEASIBLE AND REASONABLE ALTERNATIVES

Provide a detailed motivation for not considering alternatives including an explanation of the reason for the application for exemption (supporting documents, if any, should be attached to this report):

The alternative assessment has been divided into three main sections, namely:

2.1 Site Layout Alternatives:

- Preferred alternative - Landscape orientation of mounted modules - The Landscape module if properly implemented, mitigates against production losses caused by inter-row shadowing (Please Refer to Appendix C2);
- Alternative 2 - Portrait orientation of mounted modules - Greater probability of electrical production loss due to inter-row shadowing (Please Refer to Appendix C1); and
- No Go Option – The no-go option would entail no change to the status quo. The proposed project is planned to further develop the electricity generating potential of the site, but also to reduce the costs of base-load, emission free renewable energy which is more sustainable and less expensive that power generated through the use of fossil fuels. Should the no-go option be implemented and the development does not take place the above mentioned potential for the generation of renewable energy could not be utilised. The no-go option will therefore not be the preferred option for the proposed development.

2.2 Technology Alternatives:

- Crystalline silicone PV Modules which are more efficient, allowing for a greater generation capacity over a given surface area; and
- Thin Film PV Modules' efficiency is less affected by temperature flux and high operational temperatures.

2.3 Activity Alternatives:

No activity alternatives have been investigated for this particular site. A hydro power station has already been constructed on the site, and the PV Power Plant will be an extension of the generation of green energy which will also be fed into the existing 22Kv Power lines.

[1] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

Describe 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 in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether 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. 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.

Paragraphs 3 – 13 below should be completed for each alternative.

3. 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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.
List alternative sites, if applicable.

Alternative:	Latitude (S):		Longitude (E):	
Alternative S1[2] (preferred or only site alternative)	-28 º	21.977’	28 º	21.711’
Alternative S2 (if any)	-28 º	21.977’	28 º	21.711’
Alternative S3 (if any)				

In the case of linear activities: Not Applicable

Alternative:	Latitude (S):		Longitude (E):	
Alternative S1 (preferred or only route alternative)				
• Starting point of the activity				
• Middle/Additional point of the activity				
• End point of the activity				
Alternative S2 (if any)				
• Starting point of the activity				
• Middle/Additional point of the activity				
• End point of the activity				
Alternative S3 (if any)				
• Starting point of the activity				
• Middle/Additional point of the activity				
• End point of the activity				

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the physical size of the preferred activity/technology as well as alternative activities/technologies (footprints):

* Please note that no activity alternatives have been investigated because a hydro power station has already been constructed on the site, and the PV Power Plant will be an extension of the generation of green energy which will also be fed into the existing 22Kv Power lines. The sizes listed below refer to technology alternatives.

[2] “Alternative S..” refer to site alternatives.

Alternative:	Size of the activity:
Alternative A1[3] (preferred technology alternative)	99 500 m² (9.95 Ha)
Alternative A2 (if any)	99 500 m² (9.95 Ha)
Alternative A3 (if any)	

or, for linear activities: Not Applicable

Length of the activity:

Alternative:	
Alternative A1 (preferred activity alternative)	
Alternative A2 (if any)	
Alternative A3 (if any)	

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	Size of the site/servitude:
Alternative A1 (preferred activity alternative)	224 240 m² (22.4 Ha)
Alternative A2 (if any)	224 240 m² (22.4 Ha)
Alternative A3 (if any)	

5. SITE ACCESS

Does ready access to the site exist?	YES ✔	

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

Describe the type of access road planned:

Not applicable

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route 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:

6.1 the scale of the plan which must be at least a scale of 1:500;
6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
6.4 the exact position of each element of the application as well as any other structures on the site;
6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;

[3] "Alternative A.." refer to activity, process, technology or other alternatives.

6.6 all trees and shrubs taller than 1.8 metres;
6.7 walls and fencing including details of the height and construction material;
6.8 servitudes indicating the purpose of the servitude;
6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):
- rivers;
- the 1:100 year flood line (where available or where it is required by DWA);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

6.10 for gentle slopes the 1 metre 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
6.11 the positions from where photographs of the site were taken.

Refer to Appendices A1 and A2 for the Site Plan

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 Appendix B to this form. It must be supplemented with additional photographs of relevant features on the site, if applicable.

Refer to Appendix B for the Photographic Report

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix C 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.

Refer to Appendix C for the Facility Illustration

9. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R150 Mil	
What is the expected yearly income that will be generated by or as a result of the activity?	R22.5 Mil	
Will the activity contribute to service infrastructure?	YES ✔	
Is the activity a public amenity?		NO ✔
How many new employment opportunities will be created in the development phase of the activity?	60	
What is the expected value of the employment opportunities during the development phase?	R3.4 Mil over 6 months	
What percentage of this will accrue to previously disadvantaged individuals?	70%	

How many permanent new employment opportunities will be created during the operational phase of the activity?	7
What is the expected current value of the employment opportunities during the first 10 years?	R 11.2 Mil
What percentage of this will accrue to previously disadvantaged individuals?	70%

9(b) Need and desirability of the activity

Motivate and explain the need and desirability of the activity (including demand for the activity):

NEED:			
1.	Was the relevant provincial planning department involved in the application?		NO ✔
2.	Does the proposed land use fall within the relevant provincial planning framework?	YES ✔	
3.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		
	The Free State Department of Economic Development, Tourism and Environmental Affairs have been informed of the project (and all previous "green" energy projects conducted by the consultant previously) and no comments have been received from them to date. As is the case with previous "green" energy generation projects, the PV plant will generate renewable energy that would not be possible without a firm commitment by local authorities to purchase the energy.		

DESIRABILITY:			
1.	Does the proposed land use / development fit the surrounding area?	YES ✔	
	Due to the fact that the site is currently occupied by a Hydropower Plant and the previously disturbed nature of the area it can be stated that the proposed development fits the surrounding area.		
2.	Does the proposed land use / development conform to the relevant structure plans, SDF and planning visions for the area?	YES ✔	
3.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES ✔	
4.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
	Not Applicable		
5.	Will the proposed land use / development impact on the sense of place?	YES ✔	
	Yes, the proposed land development will impact on the sense of place, as the current area has agricultural land surrounding it but due to topography the site is well hidden form adjacent landowners and from the closest roads.		
6.	Will the proposed land use / development set a precedent?		NO ✔
7.	Will any person's rights be affected by the proposed land use / development?		NO ✔
8.	Will the proposed land use / development compromise the "urban edge"?		NO ✔

9.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.	
	Not Applicable	

BENEFITS:			
1.	Will the land use / development have any benefits for society in general?	YES ✔	
2.	Explain: At present, the entire country's electricity supply comes from central nodes which are resulting in a large amount of energy loss during transmission of the electricity from generation points to points of use across the country. By building this power plant away from central nodes, the electricity supply would stabilise as less transmission losses would occur. This is due to the fact that the area of generation would be supplied with energy from the PV Plant and adjacent hydropower station. Furthermore, as mentioned in Section 9(a) above approximately 60 job opportunities will be created during the development phase of the project.		
3.	Will the land use / development have any benefits for the local communities where it will be located?	YES ✔	
4.	Explain: According to the latest Quarterly Labour Force Survey (QLFS) of Statistics SA, the unemployment rate in the Free State, according to the official definition, was 27.9% during the first quarter of 2011. This was higher compared to the 25% average for South Africa. Employment during the construction of the PV Plant will be sourced from local communities, thus partially alleviating the unemployment rate.		

10. 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, if applicable:

Title of legislation, policy or guideline:	Administering authority:	Date:
National Environmental Management Act (No. 107 of 1998).	National & Provincial Department of Environmental Affairs	1998
Government Notice R.544 of 2010 Listed Activity No. 1(ii)	National Department of Environmental Affairs	2010
National Water Act (Act No. 36 of 1998)	Department of Water Affairs	1998

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

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

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

YES ✔	
It is expected that a minor amount of construction waste (approximately 10 $m^{3)}$ would be produced as no major earthworks will be required on the site for the construction of the installation.	

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

Domestic solid waste will be collected by the contractor and transported to an approved Dihlabeng Municipal solid waste landfill for disposal.

Construction solid waste will comprise of the following:

- Cardboard and plastic packaging materials;
- Metal and cable scraps; and
- Other domestic waste – to be disposed of on nearby municipal general waste site.

Construction waste disposal must be determined by the Waste Manager at Dihlabeng Municipality (Mr. Ruben Evans – Tel: 0583035732, Fax: 0583035076)

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

Domestic solid waste will be collected by the contractor and transported to an approved Dihlabeng Municipal solid waste landfill for disposal.

Construction solid waste will comprise of the following:

- Cardboard and plastic packaging materials;
- Metal and cable scraps; and
- Other domestic waste – to be disposed of on nearby municipal general waste site.

Construction waste disposal must be determined by the Waste Manager at Dihlabeng Municipality (Mr. Ruben Evans – Tel: 0583035732, Fax: 0583035076)

Will the activity produce solid waste during its operational phase?	NO ✔
If yes, what estimated quantity will be produced per month?	

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

Not Applicable

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

Not Applicable

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, then 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?	NO ✔
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?	NO ✔

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

11(b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	NO ✔
If yes, what estimated quantity will be produced per month?	Not Applicable
Will the activity produce any effluent that will be treated and/or disposed of on site?	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.

Will the activity produce effluent that will be treated and/or disposed of at another facility?	NO ✔

If yes, provide the particulars of the facility:

Facility name:	Not Applicable		
Contact person:	Not Applicable		
Postal address:	Not Applicable		
Postal code:	Not Applicable		
Telephone:	Not Applicable	Cell:	Not Applicable
E-mail:	Not Applicable	Fax:	Not Applicable

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

Not Applicable

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	NO ✔
If yes, is it controlled by any legislation of any sphere of government?	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:

Solar energy or Photovoltaic Plants generate green electricity by the conversion of solar energy into electricity. This can be defined as a non-consumptive use of a natural resource and consumes no fuel during operation. An insignificant quantity of greenhouse gases over the lifecycle of the project is produced by solar power, as compared to other means of electricity generation (e.g. fossil fuel power stations). The operational phase of a PV plant also does not produce any carbon dioxide, sulphur dioxide, mercury, particulates or any form of air pollution.

11(d) Generation of noise

Will the activity generate noise?	YES ✔ Noise generation is expected during the construction phase and mitigation measures are put forward in the EMPr (Refer to Appendix F). It should also be noted that no sensitive

receivers occur in close proximity to the site.	
If yes, is it controlled by any legislation of any sphere of government?	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 noise in terms of type and level:

The proposed activity will only generate limited noise during the construction phase due to the operation of construction vehicles and plant. During the operational phase no noise will be generated.

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

~~municipal~~	~~water board~~	groundwater	~~river, stream, dam or lake~~	~~other~~	~~the activity will not use water~~

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:

10 000ℓ will be used per month during the Operation Phase of the PV Power Plant. It will be used to clean / wash PV Panels (recommended maintenance protocol) at least four times a year.

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

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

*Note: EAB-Astrum Energy is in process of applying for a Water Use License.

13. ENERGY EFFICIENCY

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

Not Applicable due to the fact that the proposed facility will not require energy during the operational stage.

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

The PV Plant is in itself a proposed renewable / alternative energy project, thus this Section is Not Applicable.

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):	A

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

	NO ✔

If YES, please complete the form entitled "Details of specialist and declaration of interest" for each specialist thus appointed:
All specialist reports must be contained in Appendix D.

Property description/physical address:	Merino 1487 LQ, Portion 2 De Brug Susan 210 LQ Portion 1

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

	Not Applicable
	Not Applicable

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:	Hydro electricity generation

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?		NO ✔
Must a building plan be submitted to the local authority?		NO ✔

Locality map:

An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (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 degrees and decimal minutes. The minutes should have at least three decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

Refer to Appendices A1 and A2

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

Flat						

Alternative S2 (if any):

Flat						

Alternative S3 (if any):

2. LOCATION IN LANDSCAPE

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

~~2.1 Ridgeline~~
~~2.2 Plateau~~
~~2.3 Side slope of hill/mountain~~
~~2.4 Closed valley~~
~~2.5 Open valley~~
2.6 Plain
~~2.7 Undulating plain / low hills~~
~~2.8 Dune~~
~~2.9 Seafront~~

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

Is the site(s) located on any of the following (tick the appropriate boxes)?

	Alternative S1:		Alternative S2 (if any):		Alternative S3 (if any):
Shallow water table (less than 1.5m deep)		NO ✔		NO ✔	N/A
Dolomite, sinkhole or doline areas		NO ✔		NO ✔	
Seasonally wet soils (often close to water bodies)	YES ✔		YES ✔		
Unstable rocky slopes or steep slopes with loose soil		NO ✔		NO ✔	
Dispersive soils (soils that dissolve in water)		NO ✔		NO ✔	
Soils with high clay content (clay fraction more than 40%)		NO ✔		NO ✔	
Any other unstable soil or geological feature		NO ✔		NO ✔	
An area sensitive to erosion		NO ✔		NO ✔	

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:

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

~~Natural veld - good condition~~[E]	~~Natural veld with scattered aliens~~[E]	~~Natural veld with heavy alien infestation~~[E]	Veld dominated by alien species[E]	~~Gardens~~
~~Sport field~~	~~Cultivated land~~	Paved surface	Building or other structure	~~Bare soil~~

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

~~5.1 Natural area~~
~~5.2 Low density residential~~
~~5.3 Medium density residential~~
~~5.4 High density residential~~
~~5.5 Informal residential[A]~~
~~5.6 Retail commercial & warehousing~~
~~5.7 Light industrial~~
~~5.8 Medium industrial[AN]~~
~~5.9 Heavy industrial[AN]~~
5.10 Power station
~~5.11 Office/consulting room~~
~~5.12 Military or police base/station/compound~~
~~5.13 Spoil heap or slimes dam[A]~~
~~5.14 Quarry, sand or borrow pit~~
~~5.15 Dam or reservoir~~
~~5.16 Hospital/medical centre~~
~~5.17 School~~
~~5.18 Tertiary education facility~~
~~5.19 Church~~
~~5.20 Old age home~~
~~5.21 Sewage treatment plant[A]~~
~~5.22 Train station or shunting yard[N]~~
~~5.23 Railway line[N]~~
~~5.24 Major road (4 lanes or more)[N]~~
~~5.25 Airport[N]~~
~~5.26 Harbour~~
~~5.27 Sport facilities~~
~~5.28 Golf course~~
~~5.29 Polo fields~~
~~5.30 Filling station[H]~~
~~5.31 Landfill or waste treatment site~~
~~5.32 Plantation~~
5.33 Agriculture
5.34 River, stream or wetland
~~5.35 Nature conservation area~~
~~5.36 Mountain, koppie or ridge~~
~~5.37 Museum~~
~~5.38 Historical building~~
~~5.39 Protected Area~~
~~5.40 Graveyard~~
5.41 Archaeological site
5.42 Other land uses – The site consists of previously disturbed and rehabilitated veld. Rehabilitation took place after the construction of the Hydropower Station located on the Farm Merino 1487 (Bethlehem Hydro Project).

If any of the boxes marked with an "N "are ticked, how will this impact / be impacted upon by the proposed activity?

Not Applicable

If any of the boxes marked with an "An" are ticked, how will this impact / be impacted upon by the proposed activity?
If YES, specify and explain:
If YES, specify:

Not Applicable

If any of the boxes marked with an "H" are ticked, how will this impact / be impacted upon by the proposed activity.
If YES, specify and explain:
If YES, specify:

Not Applicable

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	YES ✔	
Archaeological or palaeontological sites, on or close (within 20m) to the site?	YES ✔	
If YES, explain:	Dinosaur footprints are present on the site adjacent to the Ash River but will not be impacted on by the proposed installation. Refer to Appendix A3 for an indication of the location of the footprints as well as Appendix D3 for a photographic report.	
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	Specialist studies were conducted by Metsi Metseng Geological Services cc (Palaeontological Impact Assessment) and C. Dreyer (First Phase Archaeological & Heritage Assessment) respectively – Refer to Appendix D1 and D2.	
Will any building or structure older than 60 years be affected in any way?		NO ✔
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?		NO ✔

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the competent authority) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;
(b) giving written notice to—
  (i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
  (ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
  (iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
  (v) the municipality which has jurisdiction in the area;
  (vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
  (vii) any other party as required by the competent authority;
(c) placing an advertisement in—
  (i) one local newspaper; or
  (ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;
(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and
(e) using reasonable alternative methods, as agreed to by the competent authority, in those instances where a person is desiring of but unable to participate in the process due to—
  (i) illiteracy;
  (ii) disability; or
  (iii) any other disadvantage.

Refer to Appendices E1, E3 and E6

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and
(b) state—
  (i) that the application has been submitted to the competent authority in terms of these Regulations, as the case may be;

(ii) whether basic assessment or scoping procedures are beingapplied to the application, in the case of an application for environmental authorisation;
(iii) the nature and location of the activity to which the application relates;
(iv) where further information on the application or activity can be obtained; and
(iv) the manner in which and the person to whom representations in respect of the application may be made.

Refer to Appendices E1, E3 and E6

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the competent authority in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of the EIA regulations.

Advertisements and notices must make provision for all alternatives.

Refer to Appendices E1 and E6

4. DETERMINATION OF APPROPRIATE MEASURES

The 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, ratepayers associations and traditional authorities where appropriate. 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.

Refer to Appendices E4 and E5 for the Stakeholder and Registered Interested and Affected Parties' database.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in the EIA regulations and be attached to this application. The comments and response report must be attached under Appendix E.

Refer to Appendix E9 for the Comment and Responses Report

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

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.

List of authorities informed:

- National Department of Environmental Affairs
- Dihlabeng Municipality
- Free State Department Of Tourism, Environmental And Economic Affairs
- Department of Water Affairs - Free State
- South African Heritage Resources Agency

List of authorities from whom comments have been received:

To date, no comments have been received from authorities.

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the competent authority. Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders?		NO ✔

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

Not Applicable

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2010, 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

List the main issues raised by interested and affected parties.

Interested and affected parties (I&APs) raised the following concerns:

- Visual impact;
- Location clarification as installation might fall across a future pipeline;
- Disposal of solid waste;
- Impact on Tourism;
- Sewerage removal off site;
- Services traversing along and across Rand Water Pipelines – leaks causing ground stability to change;
- Paleontological heritage features
- Location clarification as flooding of proposed holding dam might impact PV Power Station
- Water Use License for any activities within 500m of a wetland or 32m within a water course

Refer to Appendices E8 and E9 for comments received and the Comments and Responses Report.

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

Comments from I&APs were noted and addressed in the Comments and Responses Report (Refer to Appendix E9) and draft Basic Assessment Reports will be made available for public comment.

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

2.1 CONSTRUCTION PHASE

Site Alternative (preferred alternative)

Direct impacts:

- Visual impact of the infrastructure: Construction of mounting structures and racks housing the PV modules would have a minimal impact on the visual aesthetics of the surrounding area, as the area is shielded from view.

- Windblown dust from excavations: Construction activities are likely to result in the m production of windblown dust due to trenching in order to lay cabling for interconnection of the strings of panels to inverters. The quantity of dust generated would be dependent on which season the construction takes place in, and the prevailing wind direction. It needs to be noted that this impact is limited to the construction period (short term).
- Impacts on ambient noise levels: Construction activities and construction personnel on site, as well as construction vehicles moving to and from site could result in an increase in ambient noise levels in the area. The noise could have a short-term detrimental effect, but the impact would cease once construction has ended. It needs to be noted that no sensitive receivers are located close to the site.
- Litter / waste production: A limited amount of waste and litter would be generated. The effects of these factors on the biophysical environment would be small but could be more significant for the aesthetics of the area if not properly controlled. There is also a risk of hazardous substances (for example diesel and / or oil used for plant and vehicles which is stored on site) entering the river course and causing contamination.
- Impact on terrestrial flora: Construction will require limited land clearance due to the erection of mounting structures to which solar panels will be fixed. Vegetation plays an important role in the functioning of ecosystems as well as playing a vital role in maintaining biological processes in the soil. The removal of existing vegetation will result in a disruption of normal ecological functions. No plant species of conservation importance were identified during the site visit. Disturbances during construction could lead to colonisation by exotic invasive species.
- Impact on terrestrial fauna: The impacts would be restricted to the construction phase and would affect the immediate area around the construction sites i.e. 10m circumference at most.
- Erosion: There is the low risk of erosion of topsoil (limited land clearance) as a result of increased runoff and the removal of topsoil.
- Sedimentation: One of the typical impacts of construction is sedimentation, however limited clearance is planned resulting in potential runoff from the site having a low sediment load.
- Loss of topsoil: Topsoil is a valuable resource, and during construction, there is a real threat of loss of topsoil. With the development of the PV Power Plant removal of topsoil is limited.
- Traffic: Construction vehicles would have to make use of the existing unpaved road to access the site, which could impact negatively on traffic flow and safety in the area, although very little traffic is foreseen.
- Temporary employment opportunities: Construction activities may provide temporary employment for a labour force from the local communities. Skilled, semi skilled and unskilled jobs would be created, which is a positive impact.
- Heritage: According to C. Dreyer (Pr. Archaeologist/ Heritage Specialist) the proposed project and associated construction activities will not impact on the identified fossilised dinosaur footprints located on the sandstone banks in the river bank. The area will be protected and fenced off during construction. Please Refer to Appendix D2 for the Archaeological & Heritage Assessment.
- Paleontological Impact: According to Dr. G Groenewald of Metsi Metseng Geological and Environmental Services, construction activities could have a negative impact on the fossil heritage as the development site has a moderately high paleontological sensitivity rating due to the changing topography of the site and the fact that it is impossible to predict where plant fossils might occur. Through adequate monitoring and mitigation measures during excavations the high impact severity can be lowered to beneficial. Please refer to Appendix D1 for the Paleontological Impact Assessment Report.

Indirect impacts:

- Windblown dust from access road: The movement of construction vehicles along the unpaved access road could potentially generate additional windblown dust. The quantity of dust generated would be dependent on which season the construction takes place in, and the prevailing wind direction.
- Disturbance to adjoining landowners: Construction activities and construction personnel on site, as well as construction vehicles moving to and from site would cause a disturbance to adjacent landowners, although the low residential density curtails the significance of any impact on surrounding landowners.
- Security risks: During the construction phase a substantial labour force would be employed on the site, and this may pose a security risk to the surrounding property / infrastructure owners and users. Moreover, criminal elements may use the anonymity afforded by the construction activities to carry out criminal activities in the areas surrounding the proposed development (Refer to Appendix F (EMPr) to view mitigation measures)
- Social impact on local communities: A small numbers of workers, as well as increased amount of income in the area may have social consequences for the residents of the towns of Bethlehem and Clarens. The contractor will use local labour as and when required which will have a positive impact on the economy of the area. The temporary labourers will be trained in construction activities and this will increase the skills base of the community.
- Potential impact on national power supply: The proposed project will alleviate some of the pressure on the national power grid, with potentially less additional fossil fuel power stations being required.

Cumulative impacts:

Impact on terrestrial flora: Disturbances during construction could lead to colonisation by exotic invasive species. Colonisation of these invasive species will impact negatively on regional plant biodiversity as well as ecosystem integrity. The area to be excavated has already been disturbed due to agriculture and the construction of the Bethlehem Hydro Power Station.

No-go alternative (compulsory)

Direct impacts:

The no go option will result in no generation of "green" energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: N/A

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative S1	Alternative S2	Alternative S3
Visual Impact: The development and implementation of an appropriate EMPr (attached in Appendix F) during the construction phase would serve to curtail any negative impacts on the visual aesthetics by ensuring the appropriate rehabilitation of disturbed areas after completion of construction. The construction period should be as short as possible and appropriately managed.	N/A	N/A

Windblown Dust: Dust control measures should be implemented through the EMPr (attached in Appendix F) and the extent of the disturbed area reduced. Appropriate dust suppression measures, e.g. dampening with water, should be used when dust generation is unavoidable, particularly during prolonged periods of dry weather in summer. In addition, areas stripped should be minimised and phased to limit soil exposure. To combat dust generation and prevent erosion, re-vegetation should occur incrementally immediately upon completion of the construction activities at the subject location. Adhering to these mitigation measures will ensure that the impact is of low significance. Ambient noise levels: Impacts on noise generation during construction in general should be mitigated by ensuring that all regulations relating to noise generation are observed and by restricting work to normal working hours. All machines should be equipped with appropriate noise reduction equipment and all vehicles should be roadworthy (including meeting maximum noise specifications) See Appendix F. Litter / waste production: Hazardous substances, such as diesel or oil used for plant and vehicles that will be used to fuel heavy construction vehicles, shall be stored in dedicated areas developed to minimise the impact of spills. Applicable statutory requirements will be adhered to in terms of requirements for safe storage. All storage areas, spillage containment areas, containers of hazardous substances and dangerous equipment shall be clearly and prominently marked as such. Refuse and waste from the construction activities will not be disposed of on site, but will be removed to a registered waste dump by the contractor. The provision of suitable refuse disposal facilities and the effective implementation of the EMPr (Refer to Appendix F) could readily manage this potential impact. Terrestrial flora: The attached EMPr (Appendix F) will be implemented to minimise the area of disturbance. The corridor of disturbance should be re-vegetated soon after construction. All the areas disturbed during construction work will be rehabilitated with indigenous species occurring in the area to a standard similar or better than before on completion of the works. Terrestrial fauna: Given their inherent mobility, all fauna within the study area should be able to move away from the construction zone, to undisturbed land in the vicinity. As a result, the impact of construction on fauna would be considered of low significance and no mitigation is required. Erosion: The design of the temporary and permanent works shall include measures to prevent erosion resulting from concentration or increase in flow of stormwater caused by the presence of the		

works. Such measures shall include properly constructed watercourses and energy dissipaters to counter erosion and avoid discharges into agricultural lands or wetlands. Stockpiles shall be established only in demarcated areas and shall be well managed and maintained. No stockpiles will be established close to embankments or other slopes. Stockpiled materials shall not be allowed to spill into undisturbed areas or watercourses. Sedimentation: Relatively little of the site would need to be cleared during construction, and accordingly relatively little sedimentation should occur. Where possible, construction activities should be scheduled to occur outside of the rainy season, thereby reducing the anticipated volume of runoff during construction. In addition, sediment traps and barriers would be employed where appropriate. Loss of topsoil: Where possible, topsoil shall be removed approximately 250mm deep from all un-vegetated areas. It will be salvaged from all the areas to be used during construction and will be stockpiled for use during re-vegetation and landscaping. Traffic: Impacts on traffic flow during construction should be further mitigated by ensuring that all regulations relating to traffic management are observed and by notifying the local traffic officials of the construction activities. Adequate and appropriate traffic warning signage and appropriate speed limits for construction vehicles should be adhered to. Employment opportunities: Members of the community could be employed as part of the labour force. No mitigation required. Disturbance to landowners: The probability of this impact occurring could be further reduced via the implementation of the attached EMPr (Appendix F) and careful management of activities on site. Security risks: The contractor should mitigate any security risks by closely monitoring his site personnel and their activities. The residents in the area can mitigate security risks by increased vigilance. Construction workers should be easily identifiable in a uniform. Social impacts: The contractor should implement awareness campaigns, such as HIV/AIDS education to inform employees of the social and health implications of their actions. Local labour should be used as far as possible during the construction of the proposed development. The local people should be informed appropriately about how this process will unfold. The contractor must ensure that signs indicating the availability / unavailability of jobs are and that the process of hiring local labour is managed		

correctly to prevent conflict situations and to manage the likely influx of causal labour seekers. Heritage: Not Mitigation required Please refer to Appendix D2 for the Archaeological & Heritage Assessment. Paleontological Impact: The Uniquely dinosaur tracks should be declared as heritage site and no development should be allowed in that area. a permit for collection of fossils should be obtained from SAHRA. All earth moving activities should be monitored by a Palaeontologist. Resident ECO must also be trained by a profession al palaeontologist in recognition of fossils. If fossil material is discovered, it must be protected appropriately and discovery reported to [palaeontologist for removal Please refer to Appendix D1 for the Paleontological Impact Assessment Report.		

Activity/technology alternative related impacts (as appropriate) that is likely to occur as a result of the construction phase:

Activity Alternative 1 (preferred alternative)

Direct impacts:

- Visual impact of the infrastructure: Construction of mounting structures and racks housing the PV modules would have a minimal impact on the visual aesthetics of the surrounding area, as the area is shielded from view.
- Windblown dust from excavations: Construction activities are likely to result in the m production of windblown dust due to trenching in order to lay cabling for interconnection of the strings of panels to inverters. The quantity of dust generated would be dependent on which season the construction takes place in, and the prevailing wind direction. It needs to be noted that this impact is limited to the construction period (short term).
- Impacts on ambient noise levels: Construction activities and construction personnel on site, as well as construction vehicles moving to and from site could result in an increase in ambient noise levels in the area. The noise could have a short-term detrimental effect, but the impact would cease once construction has ended. It needs to be noted that no sensitive receivers are located close to the site.
- Litter / waste production: A limited amount of waste and litter would be generated. The effects of these factors on the biophysical environment would be small but could be more significant for the aesthetics of the area if not properly controlled. There is also a risk of hazardous substances (for example diesel and / or oil used for plant and vehicles which is stored on site) entering the river course and causing contamination.
- Impact on terrestrial flora: Construction will require limited land clearance due to the erection of mounting structures to which solar panels will be fixed. Vegetation plays an important role in the functioning of ecosystems as well as playing a vital role in maintaining biological processes in the soil. The removal of existing vegetation will result in a disruption of normal ecological functions. No plant species of conservation importance were identified during the site visit. Disturbances during construction could lead to colonisation by exotic invasive species.
- Impact on terrestrial fauna: The impacts would be restricted to the construction phase and would affect the immediate area around the construction sites i.e. 10m circumference at most.
- Erosion: There is the low risk of erosion of topsoil (limited land clearance) as a result of increased

runoff and the removal of topsoil.

- Sedimentation: One of the typical impacts of construction is sedimentation, however limited clearance is planned resulting in potential runoff from the site having a low sediment load.
- Loss of topsoil: Topsoil is a valuable resource, and during construction, there is a real threat of loss of topsoil. With the development of the PV Power Plant removal of topsoil is limited.
- Traffic: Construction vehicles would have to make use of the existing unpaved road to access the site, which could impact negatively on traffic flow and safety in the area, although very little traffic is foreseen.
- Temporary employment opportunities: Construction activities may provide temporary employment for a labour force from the local communities. Skilled, semi skilled and unskilled jobs would be created, which is a positive impact.

Indirect impacts:

- Windblown dust from access road: The movement of construction vehicles along the unpaved access road could potentially generate additional windblown dust. The quantity of dust generated would be dependent on which season the construction takes place in, and the prevailing wind direction.
- Disturbance to adjoining landowners: Construction activities and construction personnel on site, as well as construction vehicles moving to and from site would cause a disturbance to adjacent landowners, although the low residential density curtails the significance of any impact on surrounding landowners.
- Security risks: During the construction phase a substantial labour force would be employed on the site, and this may pose a security risk to the surrounding property / infrastructure owners and users. Moreover, criminal elements may use the anonymity afforded by the construction activities to carry out criminal activities in the areas surrounding the proposed development (Refer to Appendix F (EMPr) to view mitigation measures)
- Social impact on local communities: A small numbers of workers, as well as increased amount of income in the area may have social consequences for the residents of the towns of Bethlehem and Clarens. The contractor will use local labour as and when required which will have a positive impact on the economy of the area. The temporary labourers will be trained in construction activities and this will increase the skills base of the community.
- Potential impact on national power supply: The proposed project will alleviate some of the pressure on the national power grid, with potentially less additional fossil fuel power stations being required.

Cumulative impacts:

Impact on terrestrial flora: Disturbances during construction could lead to colonisation by exotic invasive species. Colonisation of these invasive species will impact negatively on regional plant biodiversity as well as ecosystem integrity. The area to be excavated has already been disturbed due to agriculture and the construction of the Bethlehem Hydro Power Station.

No-go alternative (compulsory)

Direct impacts:

The no go option will result in no generation of “green” energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: N/A

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative A1	Alternative A2	Alternative A3
Visual Impact: The development and implementation of an appropriate EMPr (attached in Appendix F) during the construction phase would serve to curtail any negative impacts on the visual aesthetics by ensuring the appropriate rehabilitation of disturbed areas after completion of construction. The construction period should be as short as possible and appropriately managed. Windblown Dust: Dust control measures should be implemented through the EMPr (attached in Appendix F) and the extent of the disturbed area reduced. Appropriate dust suppression measures, e.g. dampening with water, should be used when dust generation is unavoidable, particularly during prolonged periods of dry weather in summer. In addition, areas stripped should be minimised and phased to limit soil exposure. To combat dust generation and prevent erosion, re-vegetation should occur incrementally immediately upon completion of the construction activities at the subject location. Adhering to these mitigation measures will ensure that the impact is of low significance. Ambient noise levels: Impacts on noise generation during construction in general should be mitigated by ensuring that all regulations relating to noise generation are observed and by restricting work to normal working hours. All machines should be equipped with appropriate noise reduction equipment and all vehicles should be roadworthy (including meeting maximum noise specifications). Litter / waste production: Hazardous substances, e.g. diesel, oil, etc. which is used on site for plant and vehicles shall be stored in dedicated areas developed to minimise the impact of spills. Applicable statutory requirements will be adhered to in terms of requirements for safe storage. All storage areas, spillage containment areas, containers of hazardous substances and dangerous equipment shall be clearly and prominently marked as such. Refuse and waste from the construction activities will not be disposed of on site, but will be removed to a registered waste dump by the contractor. The provision of suitable refuse disposal facilities and the effective implementation of the EMPr could readily manage this potential impact. Terrestrial flora: The attached EMPr (Appendix F) will be implemented to minimise the area of disturbance. The corridor of disturbance should be re-vegetated soon after construction. All	N/A	N/A

the areas disturbed during construction work will be rehabilitated with indigenous species occurring in the area to a standard similar or better than before on completion of the works. Terrestrial fauna: Given their inherent mobility, all fauna within the study area should be able to move away from the construction zone, to undisturbed land in the vicinity. As a result, the impact of construction on fauna would be considered of low significance and no mitigation is required. Erosion: The design of the temporary and permanent works shall include measures to prevent erosion resulting from concentration or increase in flow of stormwater caused by the presence of the works. Such measures shall include properly constructed watercourses and energy dissipaters to counter erosion and avoid discharges into agricultural lands or wetlands. Stockpiles shall be established only in demarcated areas and shall be well managed and maintained. No stockpiles will be established close to embankments or other slopes. Stockpiled materials shall not be allowed to spill into undisturbed areas or watercourses. Sedimentation: Relatively little of the site would need to be cleared during construction, and accordingly relatively little sedimentation should occur. Where possible, construction activities should be scheduled to occur outside of the rainy season, thereby reducing the anticipated volume of runoff during construction. In addition, sediment traps and barriers would be employed where appropriate. Loss of topsoil: Where possible, topsoil shall be removed approximately 250mm deep from all un-vegetated areas. It will be salvaged from all the areas to be used during construction and will be stockpiled for use during re-vegetation and landscaping. Traffic: Impacts on traffic flow during construction should be further mitigated by ensuring that all regulations relating to traffic management are observed and by notifying the local traffic officials of the construction activities. Adequate and appropriate traffic warning signage and appropriate speed limits for construction vehicles should be adhered to. Employment opportunities: Members of the community could be employed as part of the labour force. No mitigation required. Disturbance to landowners: The probability of this impact occurring could be further reduced via the implementation of the attached EMPr (Appendix F) and careful management of activities on site. Security risks: The contractor should mitigate any security risks		

by closely monitoring his site personnel and their activities. The residents in the area can mitigate security risks by increased vigilance. Construction workers should be easily identifiable in a uniform. Heritage: Not Mitigation required Please refer to Appendix D2. Paleontological Impact: The Uniquely dinosaur tracks should be declared as heritage site and no development should be allowed in that area. a permit for collection of fossils should be obtained from SAHRA. All earth moving activities should be monitored by a Palaeontologist. Resident ECO must also be trained by a profession al palaeontologist in recognition of fossils. If fossil material is discovered, it must be protected appropriately and discovery reported to [palaeontologist for removal Please refer to Appendix D1. Social impacts: The contractor should implement awareness campaigns, such as HIV/AIDS education to inform employees of the social and health implications of their actions. Local labour should be used as far as possible during the construction of the proposed development. The local people should be informed appropriately about how this process will unfold. The contractor must ensure that signs indicating the availability / unavailability of jobs are and that the process of hiring local labour is managed correctly to prevent conflict situations and to manage the likely influx of causal labour seekers.		

OPERATIONAL PHASE

SiteS1 (preferred alternative)

Direct impacts:

- Visual impact of infrastructure: Depending on the final design, the aesthetic of the PV Power Plant could have a minimal visual impact in the area as the site is shielded from view. The rural setting would be aesthetically altered by the proposed development of the scheme. The visual effects will be mitigated by means of altered site layout in order to reduce the height of the PV module racks. Various other design and construction factors will be taken into account in order to minimise the visual effects. (See Appendix B for a visual representation from various angles).
- Impact on terrestrial flora: The impact on the terrestrial flora and habitat will be very low / negligible. The corridor of disturbance cleared during the construction phase will in terms of the EMPr be rehabilitated with endemic species and alien species will be controlled.
- Impact on terrestrial fauna: The impact on terrestrial fauna will be very low / negligible. Due the mobility of the fauna it is anticipated that animals will move away from the site during the construction phase but a natural migration back to area will occur after the construction phase.
- Socio-economic impacts / poverty alleviation: The PV Power Plant could supply power at a competitive tariff compared to current rates charged for electricity by existing service providers. The savings to the Local Authority from reduced power cost could boost their budget and contribute to the delivery of other basic services. In addition the implementation of the project could result in a large amount of foreign investment in the region. Approximately three full-time job

opportunities would be created.

- Impact on Tourism: The impact on Tourism will be very low negative impact. It could actually could result in a positive impact as an interest to new technology being used to produce energy
- Location Clarification: The impact is very low the the proposed project will be impacted by future pipeline and holding Dam
- Heritage: Construction activities will not impact on the identified fossilised dinosaur footprints located on the sandstone banks in the river bank. This is quoted from a Specialist Assessment by Cobus Dreyer (Pr. Archaeologist/ Heritage Specialist) Please refer to Appendix D2.
- Paleontological Impact: Construction activities will have a negative impact on the fossil heritage if the Molten Formation Mudstone is exposed. There is a high potential for fossil material in the imbedded mudstones to be uncovered during excavations. This is referenced from a Specialist Assessment by Metsi Metseng Geological and Environmental Services Please refer to Appendix D1.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Alternative S2 Not Applicable

Direct impacts: Not Applicable

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Alternative S3 Not Applicable

Direct impacts: Not Applicable

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

No-go alternative (compulsory)

Direct impacts:

The no go option will result in no generation of “green” energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative S1	Alternative S2	Alternative S3
Visual impact of infrastructure: Sensitive siting and design of the infrastructure could mitigate this impact significantly. The PV Plant could be designed to fit in with vernacular architecture and aesthetics of the area. The scheme and associated works can be placed and designed in such a manner as to minimize the impacts. Impact on terrestrial fauna: The operation of the PV Power Plant would not impact on terrestrial fauna significantly due to their inherent mobility and the highly disturbed nature of the site. Socio-economic impacts / poverty alleviation: No mitigation required. Impact on Tourism: No mitigation Location Clarification: The proposed pipeline is upstream from the proposed PV Power Plant therefore no mitigation is required	Not Applicable	Not Applicable

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the operational phase:

Alternative A1 (preferred alternative)

Direct impacts:

- Visual impact of infrastructure: Depending on the final design, the aesthetic of the PV Power Plant could have a visual impact in the area. The rural setting would be aesthetically altered by the proposed development of the scheme. The visual impact will be mitigated in such a manner as to minimize the negative effect as far as possible.
- Impact on terrestrial flora: Vegetation plays an important role in the functioning of ecosystems as well as playing a vital role in maintaining biological processes in the soil. The removal of existing vegetation will result in a disruption of normal ecological functions. No plant species of conservation importance were identified during the site visit. Disturbances during construction will lead to colonisation by exotic invasive species.
- Impact on terrestrial fauna: Habitat loss is the lead cause of species loss around the world, however, the impacts would be restricted to the disturbance of the footprint. Given their inherent mobility, all fauna within the study area should be able to move away to undisturbed land in the vicinity.
- Socio-economic impacts / poverty alleviation: The PV Power Plant could supply power at a competitive tariff compared to current rates charged for electricity by current service providers. The savings to the Local Authority from reduced power cost could boost their budget and contribute to the delivery of other basic services. In addition the implementation of the project could result in a large amount of foreign investment in the region. Approximately three full-time job opportunities would be created.
- Impact on Tourism: The impact on Tourism will be very low negative impact. It could actually could result in a positive impact as an interest to new technology being used to produce energy

- Location Clarification: The impact is very low the proposed project will be impacted by future pipeline and holding Dam

Indirect impacts: N/A

Cumulative impacts:

- Impact on terrestrial flora: Disturbances during construction will lead to colonisation by exotic invasive species. Colonisation of these invasive species will impact negatively on regional plant biodiversity as well as ecosystem integrity. The area to be excavated has already been disturbed due to agriculture and the construction of the Bethlehem Hydro.

Alternative A2 Not Applicable

Direct Impacts: Not Applicable

Indirect impacts: Not Applicable

Cumulative impacts:

- Impact on terrestrial flora: Disturbances during construction will lead to colonisation by exotic invasive species. Colonisation of these invasive species will impact negatively on regional plant biodiversity as well as ecosystem integrity. The area to be excavated has already been disturbed due to agriculture and the construction of the Bethlehem Hydro.

Alternative A3 Not Applicable

Direct impacts: Not Applicable

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

No-go alternative (compulsory)

Direct impacts:

The no go option will result in no generation of “green” energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative A1	Alternative A2	Alternative A3
Visual impact of infrastructure: Sensitive siting and design of the infrastructure could mitigate this impact significantly. The power station could be designed to fit in with vernacular architecture and aesthetics of the area. Impact on terrestrial flora: An invasive species removal	Not Applicable	Not Applicable

programme will aid in reducing the impact, however the impact remains significant. Impact on terrestrial fauna: The operation of the PV Power Plant would not impact on terrestrial fauna significantly due to their inherent mobility and the highly disturbed nature of the site. Socio-economic impacts / poverty alleviation: No mitigation required. Impact on Tourism: No mitigation Location Clarification: The proposed pipeline is upstream from the proposed PV Power plant therefore no mitigation is required		

DECOMISSIONING AND CLOSURE PHASE

List the potential site alternative related impacts (as appropriate) that are likely to occur as a result of the decommissioning or closure phase:

Alternative S1 (preferred alternative)

Direct impacts:
It is not anticipated that the proposed PV Power Plant will be decommissioned. Should it be the case at a later stage, a decommissioning EMPr will be compiled.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

No-go alternative (compulsory)

Direct impacts:
The no go option will result in no generation of "green" energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative S1	Alternative S2	Alternative S3
Not Applicable	Not Applicable	Not Applicable

List the potential activity/technology alternative related impacts (as appropriate) that are likely to occur as a result of the decommissioning and closure phase:

Alternative A1 (preferred alternative)

Direct impacts: Not Applicable

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

No-go alternative (compulsory)

Direct impacts:

The no go option will result in no generation of "green" energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

Indirect impacts: Not Applicable

Cumulative impacts: Not Applicable

Indicate mitigation measures that may eliminate or reduce the potential impacts listed above:

Alternative A1	Alternative A2	Alternative A3
Not Applicable	Not Applicable	Not Applicable

PROPOSED MANAGEMENT OF IMPACTS AND MITIGATION

Indicate how identified impacts and mitigation will be monitored and/or audited.

Alternative S1	Alternative S2	Alternative S3
Refer to Appendix F for the EMPr	Not Applicable	Not Applicable

Alternative A1	Alternative A2	Alternative A3
Not Applicable	Not Applicable	Not Applicable

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity 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.

This Report has assessed the potential impacts associated with Development of the PV Power Plant construction. This investigation has not identified any potential impacts on the environment, which are so severe as to suggest that the proposed infrastructure should not be approved.

The proposed development is aimed at enhancing / augmenting the electricity supply to the Dihlabeng Municipality. The expected long term effects on the environment is mostly positive, while the short term negative effects of construction activities of has limited impact on the environment, and with the implementation of the recommendations contained in this report, could be managed and minimised.

An Environmental Control Officer (ECO) will be appointed for the construction period. The ECO would conduct regular monitoring to ensure compliance with the Environmental Management Programme (EMPr) (Attached in Appendix F), and keep records of such monitoring. These monitoring records will be made available to the Site Engineer for record and action as required.

Alternative A (preferred alternative)

This Report has assessed the potential impacts associated with Development of the PV Power Plant construction. This investigation has not identified any potential impacts on the environment, which are so severe as to suggest that the proposed infrastructure should not be approved.

The proposed development is aimed at enhancing / augmenting the electricity supply to the Dihlabeng Municipality. The expected long term effects on the environment is mostly positive, while the short term negative effects of construction activities of has limited impact on the environment, and with the implementation of the recommendations contained in this report, could be managed and minimised.

An Environmental Control Officer (ECO) will be appointed for the construction period. The ECO would conduct regular monitoring to ensure compliance with the Environmental Management Programme (EMPr) (Attached in Appendix F), and keep records of such monitoring. These monitoring records will be made available to the Site Engineer for record and action as required.

No-go alternative (compulsory)

The no go option will result in no generation of “green” energy and thus alternative energy sources (e.g. coal fired power stations) will need to be investigated. The social impact on local communities (i.e. temporary job creation and increase in skill base of the community) will also be negatively impacted upon.

SECTION E. 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)?	YES ✔	

If "NO", indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

Not Applicable

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:

The following recommendations are considered professional opinions and are based on experience in the field, knowledge of the local environment, and are informed by comments received during the course of the Basic Assessment process. The recommendations can be separated into the following groups:

- Construction recommendations; and
- Operational and maintenance recommendations

Construction recommendations

- It is recommended that the mitigation measures detailed in the report be implemented in order to reduce the significance of the impacts associated with the construction of the proposed hydropower scheme.
- In order to manage construction and limit the significance of impacts mentioned in Section D, an EMPr (Appendix F) was developed. It is crucial that the implementation of the EMPr is enforced by an Environmental Control Officer during construction, and that the environmental conditions, costs and penalties are written onto the contract documentation
- In particular, it is recommended that disturbed areas should be rehabilitated and re-vegetated with suitable vegetation.

Operational and maintenance recommendations

- Develop and implement an operational Environmental Management System (EMS), with appropriate guidelines for the optimal operation of the plant and a contingency plan to deal with upset operating conditions and emergency situations (e.g. flooding, mechanical failure) should they arise. The EMPr incorporates appropriate monitoring protocols and makes adequate provision for appropriate action in the event of potentially significant thresholds being reached or trends indicating potentially significant adverse impacts be noted.

Is an EMPr attached?	YES ✔	

The EMPr must be attached as Appendix F.

SECTION F: APPENDICES

The following appendixes must be attached as appropriate:

Appendix A1: General Locality Map of the Merino PV Plant (1 : 50 000)
Appendix A2: Detailed Layout Map of the Merino PV Plant (1 : 2 000)

Appendix B: Photographic Report

Appendix C: Facility illustration

Appendix D1: Paleontological Impact Assessment Report
Appendix D2: First Phase Archaeological & Heritage Assessment
Appendix D3: Photographic Report Indicating Dinosaur footprints on the Farm De Brug Susan 210

Appendix E1: Proof of Site Notice
Appendix E2: Background Information Document (BID)
Appendix E3: Written notices to stakeholders
Appendix E4: Copy of the Register of I&APs
Appendix E5: Copy of the Register of Stakeholders
Appendix E6: Proof of Newspaper advertisements
Appendix E7: Proof of Landowner Consent
Appendix E8: Comments received from I&Aps and Stakeholders
Appendix E9: Comments and Reponses Report

Appendix F: Environmental Management Programme (EMPr)

Appendix G1: Technical Design Report
Appendix G2: Proof of WULA Submission
Appendix G3: CAA Approval

Appendix A: Locality Maps

Appendix A1: General Locality Map of the Merino PV Plant (1 : 50 000)

Locality Map of the Proposed Photovoltaic Plant on the Farm Merino 1487

Bethlehem
Loch Athlone
Loch Athlone Holiday Resort
Wolhuterskop
De Bult
Meadow Crest
Diggings
Gerrands Dam
Wolhuterskop
Sydney Cottage
Bethanie
Mokgva
Mary Ann
Norheim
Grootstry
Benadia
Vosges
Deurgesien
Glen Ash
Mariane
Christenburg
L'Abri
Carmel
Kommandant
La Motte
The Glen
Mooivlei
Renezvous
Bruwers Hoop
Saulspoort Dam
Energie
Poortjie
Sanbaden
Review
Octavus
Hesta
Trekpad
Bonnington
Sterling
Bethesda
Taillefert
De Burg Susan
Middelvlei
Cronier
Stefanium
Stefanium No. 2
Ramah
Spioenkop
Kruisvlei
Vergeetnie
Eendvogelvley
Faulder
Morgenzon
Groenvlei
Houtkop
Kroonspruit
Meisetter
Merino
Merino 1487
Daljasophat
Mizpa
Project Site
Boston 40
Jordaanvlei
Furrow
Landmark
Belmont
Eden
Bethlehem Vliegveld
Jordania
Bureka
La Provence
Ronnashtrek
Coenana
Beersheba
Energie
Berse
Sterling
Taillefert
Bethesda
Daljasophat
Mizpa
Scale 1 : 50 000
0 0.25 0.5 1 1.5 2 2.5 km

International Boundary and Beacon	Internasionale Grens en Baken
Provincial Boundary	Provinsiale Grens
Protected Area	Bewarings Gebied
Perennial River	Standhoudende Rivier
Perennial Water	Standhoudende Water
Non-perennial River	Nie-standhoudende Rivier
Non-Perennial Water	Nie-standhoudende Water
Dry Water Course	Droë Loop
Dry Pan	Droë Pan
Marsh and Vlei	Moeras en Vlei
Pipeline (above ground)	Pypyn (bo die grond)
Water Tower; Reservoir; Water Point	Watertoring; Reservoir; Waterpunt
Coastal Rocks	Kuslynrotse
Prominent Rock Outcrop	Prominente Klipbank
Erosion; Sand	Erosie; Sand
Woodland	Beboste Gebied
Cultivated Land	Bewerkte Land
Orchard or Vineyard	Boord of Wingerd
Recreation Ground	Ontspanningsterrein
Row of Trees	Rye Bome
National Freeway; National Route	Nasionale Deurpad; Nasionale Roete
Arterial Route	Hoofverkeersroete
Main Road	Hoofpad
Secondary Road; Bench Mark	Sekondêre Pad; Hoogtemerk
Other Road; Bridge	Ander Pad; Brug
Track and Hiking Trail	Dowwe Pad en Voetslaanpad
Railway; Station or Siding	Spoorweg; Stasie of Sylyn
Other Railway; Tunnel	Ander Spoorweg; Tonnel
Embankment; Cutting	Opvulling; Deurgrawing
Power Line	Kraglyn
Built-up Area (High, Low Density)	Beboude Gebied (Hoë, Lae Digtheid)
Buildings; Ruin	Geboue; Murasie
Post Office; Police Station; Store	Poskantoor; Polisiestasie; Winkel
Place of Worship; School; Hotel	Plek van Aanbidding; Skool; Hotel
Fence; Wall	Draadheining; Muur
Windpump; Monument	Windpomp; Monument
Communication Tower	Kommunikasietoring
Mine Dump; Excavation	Mynhoop; Uitgrawing
Trigonometrical Station; Marine Beacon	Poilbaken; Seevaartbaken
Lighthouse and Marine Light	Vuurtoring en Seevaartlig
Cemetery; Grave	Begraafplaas; Graf

Appendix A2: Detailed Locality Map of the Merino PV Plant (1 : 2 000)

N
W E
S

Legend

- Suitable Area
- PowerLine & Inverters
- Panel Rack Layout
- New Road Layout
- Heritage Features

aurecon

N
W E
S

0 12.5 25 50 75 m

1 : 2 000

Appendix B: Photographic Report

Photo Report of Farm Merino 1487, Portion 2

The Photo Report below contains photos of Farm Merino 1487, Portion 2 during and after construction of the Bethlehem Hydro. Photos marked with a * was taken before rehabilitation of the Bethlehem Hydro project. The remaining photo was taken after rehabilitation. **Figure 1** is a representation of the proposed Development of Photovoltaic power station footprint, the arrows indicate were the different photos were taken from and the direction in which they were captured.

***Photo a:**Taken adjacent to the intake channel of the Bethlehem Hydro and the Ash River

***Photo b:**Taken from the weir at the intake channel of the Bethlehem Hydro

***Photo c:**Taken along the intake channel of the Bethlehem Hydro

***Photo d:**Taken to the left of the Bethlehem Hydro

***Photo e:** Taken adjacent to the Bethlehem Hydro.

***Photo f:**Taken adjacent to the Ash River

***Photo g:**Taken in north easterly direction adjacent to the Ash River

***Photo h:**Taken in a south westerly direction

***Photo i:**Taken to the west

***Photo j:**Taken from same point as Photo 1 but to the north west with the Bethlehem hydro in the distance

Photo k: Taken from the access road over the tail end channel of the Bethlehem Hydro in a north westerly direction

Photo l: Taken of the rock outcrop on Farm Merino 1487 to the east

Photo m: Taken of the rock outcrop on Farm Merino 1487 in a north easterly direction

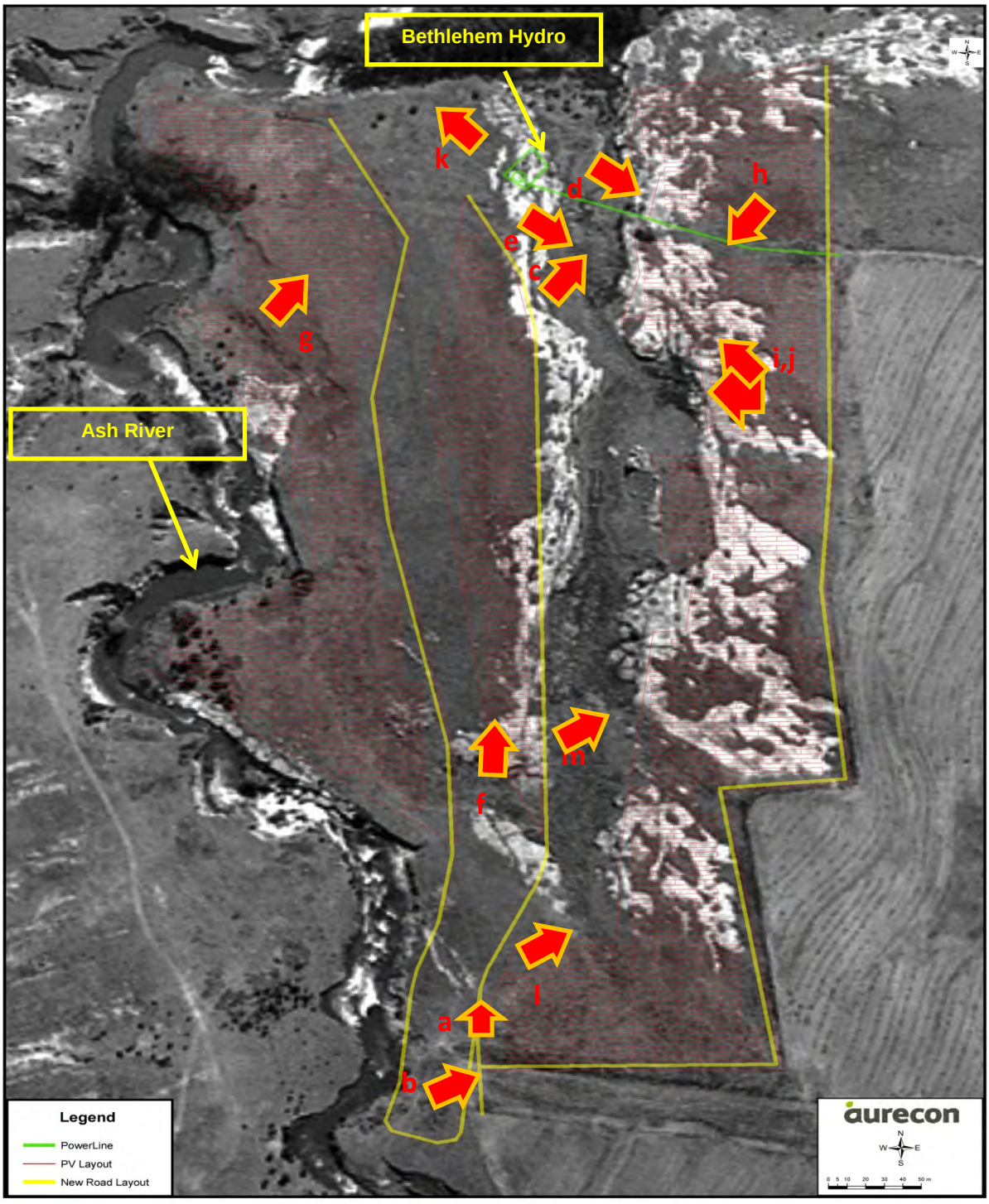
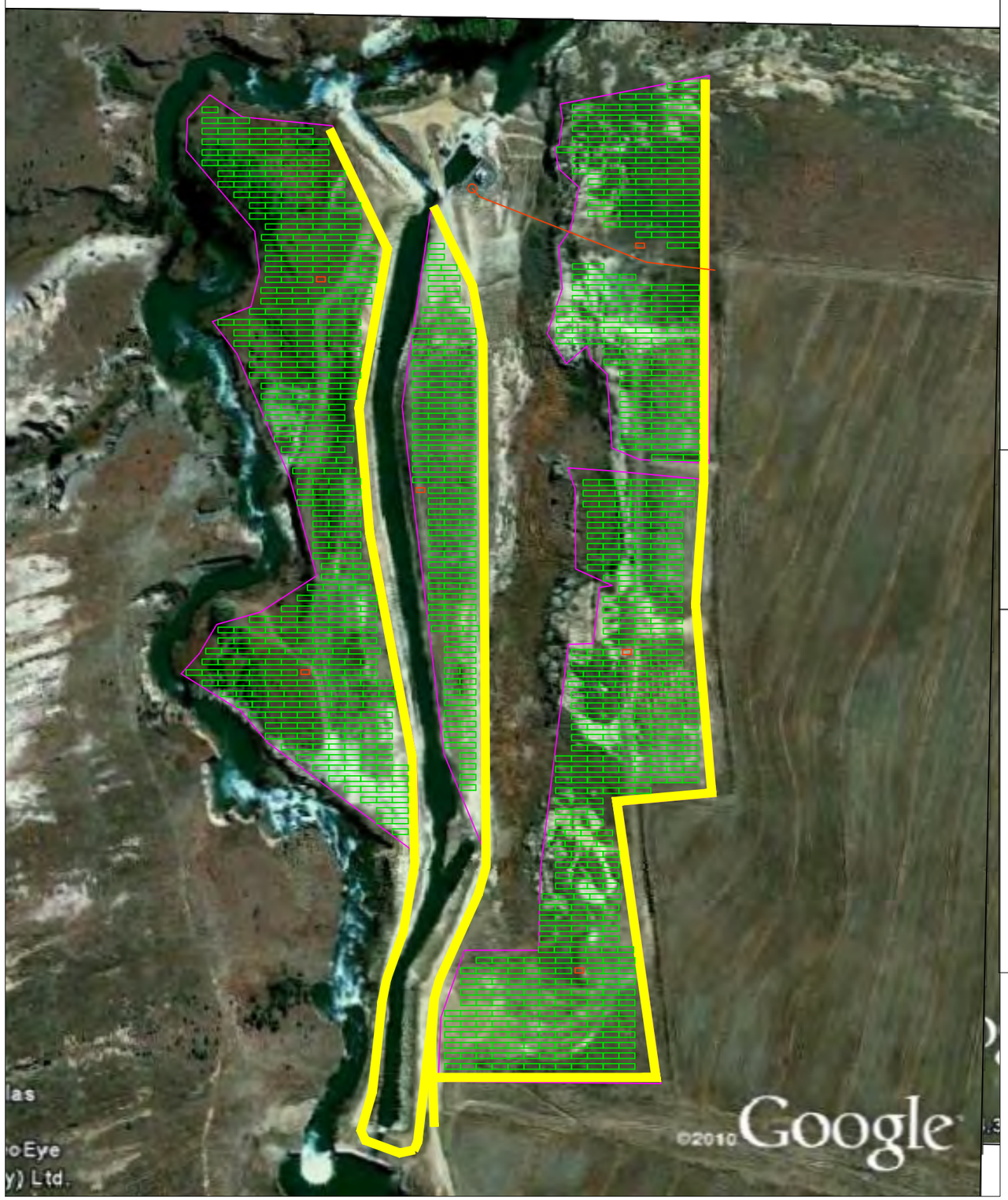


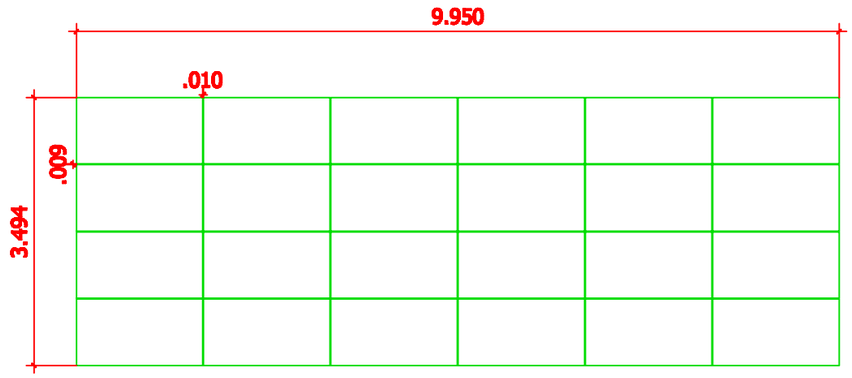
Figure 1: Footprint of the Photovoltaic Power Plant with points were the Photos of above were taken

Appendix C: Facility Illustration

Appendix C1: Merino PV Layout – Portrait Orientation

Merino PV Plant Layout - Landscape Layout



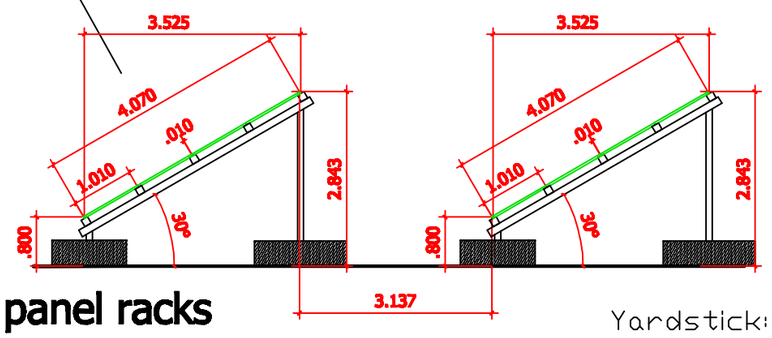


Top view - panel racks

Yardstick: 1:80

legend		powerline		inverter
	road		suitable area		
	panel rack		grid connect. pt.		

Modul Typ SW 220 poly
W/H/D = 1,001/1,675/0,034 m



Side view - panel racks

Yardstick: 1:100

Modification:		
Description: PV area		
Yardstick: 1 : 3300		
Department:	Date:	Signature:
Conditioning:	24.10.2011	
Drawing:	01.12.2010	
Check:		

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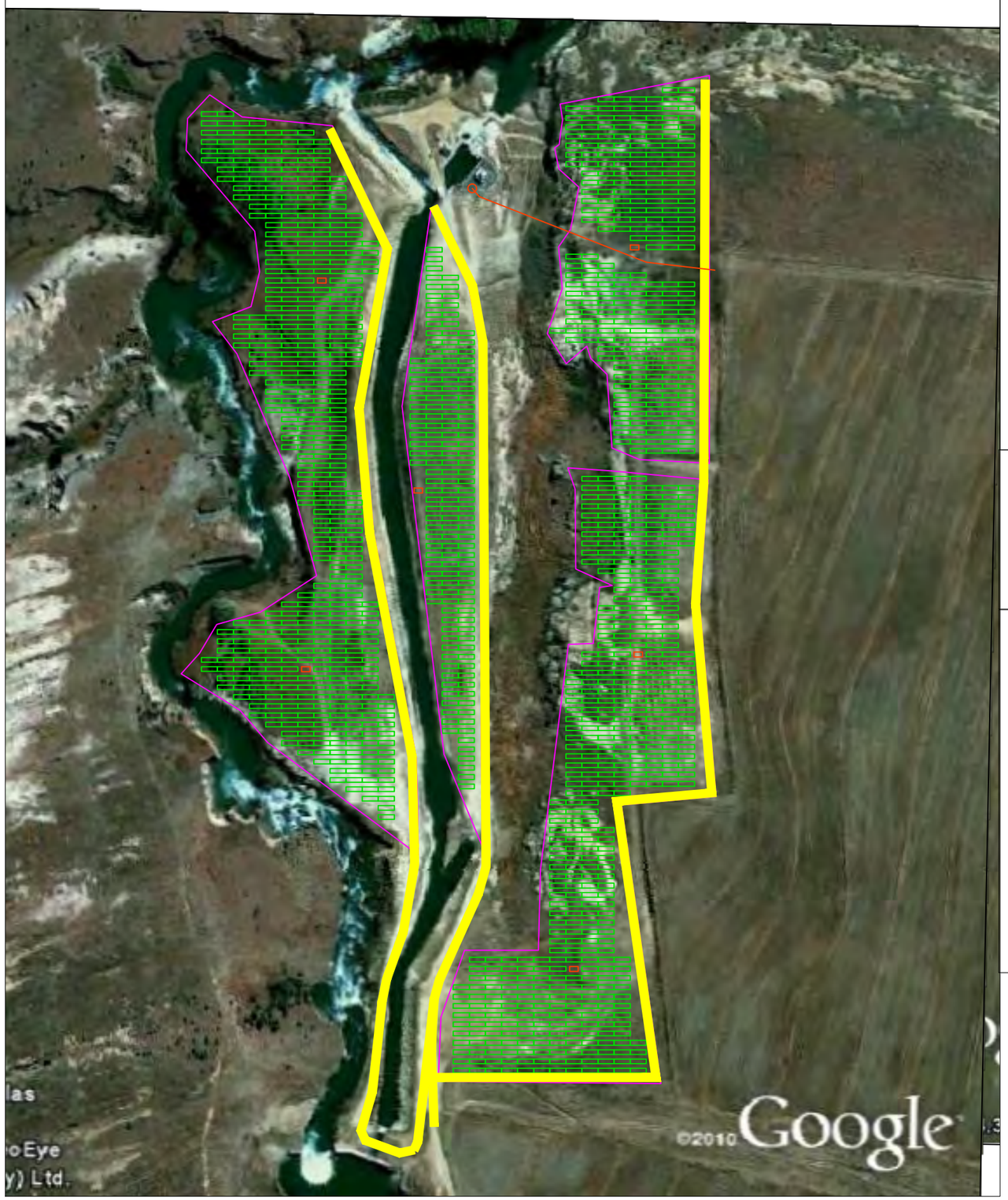
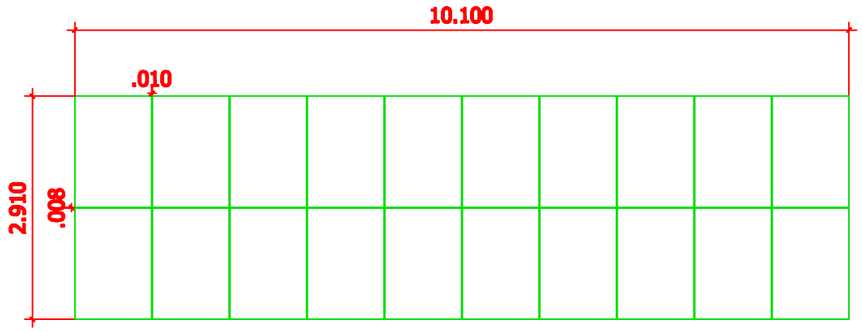
Project:
PV - Project Merino

Appendix C2: Merino PV Layout – Landscape Orientation

Merino PV Plant Layout - Portrait Layout



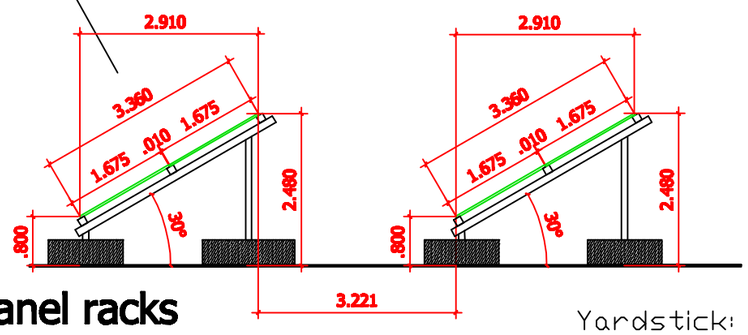


Top view - panel racks

Yardstick: 1:80

legend		powerline		inverter
	road		suitable area		
	panel rack		grid connect. pt.		

Modul Typ SW 230 poly
W/H/D = 1,001/1,675/0,034 m



Side view - panel racks

Yardstick: 1:100

Modification:		
Description: PV area		
Yardstick: 1 : 3300		
Department:	Date:	Signature:
Conditioning:	24.10.2011	
Drawing:	01.12.2010	
Check:		

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Project:
PV - Project Merino

Appendix D: Heritage Assessment

Appendix D1: Paleontological Impact Assessment Report

PALAEONTOLOGICAL IMPACT ASSESSMENT REPORT

PROPOSED MERINO PV FACILITY

Bethlehem, Free State Province of South Africa

Farm: Merino 1487 in the Dihlabeng Municipality within the Thabo Mofutsanyane District Municipality

Developer: **EAB-Astrum Energy (Pty) Ltd**
Smart Xchange Centre, 1st Floor
5 Walnut Road, Durban, 4001

Consultant: **Aurecon South Africa (Pty) Ltd**
Aurecon Centre Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

24 February 2012

Metsi Metseng Geological & Environmental Services

Suite 91
Private Bag X62
Bethlehem 9700
info@mmges.co.za
Fax 086 743 6864
+27 82 070 0735
+27 82 829 4978
www.mmges.co.za
VAT 4260183498
Reg 1999/30444/23

EXECUTIVE SUMMARY

The purpose of this Palaeontological Impact Assessment is to identify exposed and potential palaeontological heritage on the site of the proposed development, to assess the impact the development may have on this resource, and to make recommendations as to how this impact might be mitigated.

The EAB-Astrum Energy (Pty) Ltd plans to develop a PV Solar Power Facility, with a footprint of 7.34ha, on the farm Merino 1487 approximately 15 km east of Bethlehem Town in the Eastern Free State Province. The project would entail the construction of a PV Power Station that will consist of roughly 1300 racks that will produce approximately 6MW to be fed into the existing 22kV power line infrastructure of the Merino Hydro Power Plant located on the same site.

A basic assessment of the topography and geology of the area was made by using appropriate geological (1:250 000) maps in conjunction with Google Earth. A review of the literature on the geological formations exposed at surface in the development site and the fossils that have been associated with these geological strata was undertaken. A site field investigation was conducted on 9 February 2012, with the aim to document any exposed fossil material and to assess the palaeontological potential of the region in terms of the type and extent of rock outcrop in the area.

The development site is underlain by the Triassic Molteno Formation that consists of coarse-grained grey sandstone and dark grey mudstone. Soils are derived from the underlying rock and are generally deep and relatively high in fertility. The Triassic Molteno Formation can have a moderate to high potential for plant fossils from the *Dicroidium* assemblage. The *Dicroidium* assemblage is an extinct genus of fork-leaved seed ferns that were distributed over Gondwanaland during the Triassic Period. Invertebrate fossils are restricted to trace fossils. Tracks of dinosaurs have been recorded from outcrops of the Molteno Formation.

Field investigations confirmed that very few outcrops of potential fossil-rich mudstone beds are present in the study area. However several outcrops of highly bioturbated sandstone were observed. A set of well-defined tracks of dinosaurs have been recorded from this locality during 2008. The dinosaur tracks are associated with a very uniquely preserved palaeosurface of ripple-marked sandstone with associated casts of desiccation cracks.

The outcrop areas of the Molteno Formation in the development site have a moderately high palaeontological sensitivity rating due to the changing topography of the site and the fact that it is impossible to predict where plant fossils might occur. Through adequate monitoring and mitigation measures during excavations the high impact severity can be lowered to beneficial. The exposure and subsequent reporting of fossils (that would otherwise have remained undiscovered) to a qualified palaeontologist for excavation will have a beneficial palaeontological impact.

SIGNIFICANCE RATING							
Rock Unit	Temporal Scale	Spatial Scale	Degree of Confidence	Impact Severity		Overall Significance	
				With mitigation	Without mitigation	With mitigation	Without mitigation
Molteno Formation	permanent	international	possible	beneficial	very severe	beneficial	High negative

It is recommended that a collection and rescue permit be obtained from SAHRA prior to construction. That the resident ECO be trained by a professional palaeontologist in the recognition of fossil material. That all earth-moving activities with potential impact on the Molteno Formation be monitored by the resident ECO under guidance of a palaeontologist. If fossil material is later discovered it must be appropriately protected and the discovery reported to a palaeontologist for the removal thereof. That a monitoring report be submitted to SAHRA after the completion of the earth works phase.

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1. INTRODUCTION

The development of a Photovoltaic Plant Facility near Bethlehem in the Eastern Free State is an initiative of EAB-Astrum Energy (Pty) Ltd. The purpose of this Palaeontological Impact Assessment is to identify exposed and potential palaeontological heritage on the site of the proposed development, to assess the impact the development may have on this resource, and to make recommendations as to how this impact might be mitigated.

1.1. Legal Requirements

This report forms part of the Basic Environmental Impact Assessment for the PV SOLAR PLANT and complies with the requirements for the South African National Heritage Resource Act No 25 of 1999. In accordance with Section 38 (Heritage Resources Management), a Palaeontological Impact Assessment is required to assess any potential impacts to palaeontological heritage within the development footprint of the PV Solar Power site.

Categories of heritage resources recognised as part of the National Estate in Section 3 of the Heritage Resources Act, and which therefore fall under its protection, include:

- geological sites of scientific or cultural importance;
- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens; and
- objects with the potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage.

2. PROPOSED DEVELOPMENT DESCRIPTION

The EAB-Astrum Energy (Pty) Ltd plans to develop a PV Solar Power facility on the farm Merino 1487 approximately 15 km east of Bethlehem Town in the Eastern Free State Province (See Figure 2.1). The installation's footprint is approximately 7.34ha.

Figure 2.1 Proposed PV Solar Power Facility on the farm Merino 1487

The activity applied for is the Development of a Photovoltaic Plant (PV) on the farm Merino 1487, Clarens, Free State Province. The project would entail the construction of a PV Power Station that will consist of roughly 1300 racks that will produce approximately 6MW of electricity. The PV plant will convert the solar energy into electrical energy via crystalline silicone cells, producing approximately 6MW of electricity which will then be fed into the existing 22kV power line infrastructure of the Merino Hydro Power Plant located on the same site. Power so generated will be sold to ESKOM and the Dihlabeng Municipality

3. AIMS AND METHODS

After discussions with Aurecon South Africa (Pty) Ltd a request for a Phase 1 Palaeontological Impact Assessment (PIA) was received. Following the *"SAHRA APM Guidelines: Minimum Standards for the Archaeological & Palaeontological Components of Impact Assessment Reports"* the aims of the PIA were:

- identifying exposed and subsurface rock formations that are considered to be palaeontologically significant;
- assessing the level of palaeontological significance of these formations;
- conducting fieldwork to assess the immediate risk to exposed fossils as well as to document and sample these localities;
- commenting on the impact of the development on these exposed and/or potential fossil resources;
- making recommendations as to how the developer should conserve or mitigate damage to these resources.

A basic assessment of the topography and geology of the area was made by using appropriate geological (1:250 000) maps in conjunction with Google Earth. The only limitation on this methodology is the scale of mapping, which restricts comparison of the geology to the 1:250 000 scale. This restriction only applies in areas where major changes in the geological character of the area occur over very short distances or on the geological transformation zones.

A review of the literature on the geological formations exposed at surface in the development site and the fossils that have been associated with these geological strata was undertaken.

A field investigation of the site was conducted on 9 February 2012 by Dr G Groenewald an experienced fieldworker. The aims of the fieldwork were to document any exposed fossil material and to assess the palaeontological potential of the region in terms of the type and extent of rock outcrop in the area.

4. GEOLOGY OF THE AREA

The geology around development area is underlain by the Molteno Formation (Trm) of the Karoo Supergroup. Quaternary (Yellow) sediments occur in the valley floors as illustrated in Figure 4.1.

4.1. The Molteno Formation

The development site is underlain by the Triassic Molteno Formation (Trm) that consists of coarse-grained grey sandstone and dark grey mudstone. Soils are derived from the underlying rock and are generally deep and relatively high in fertility.

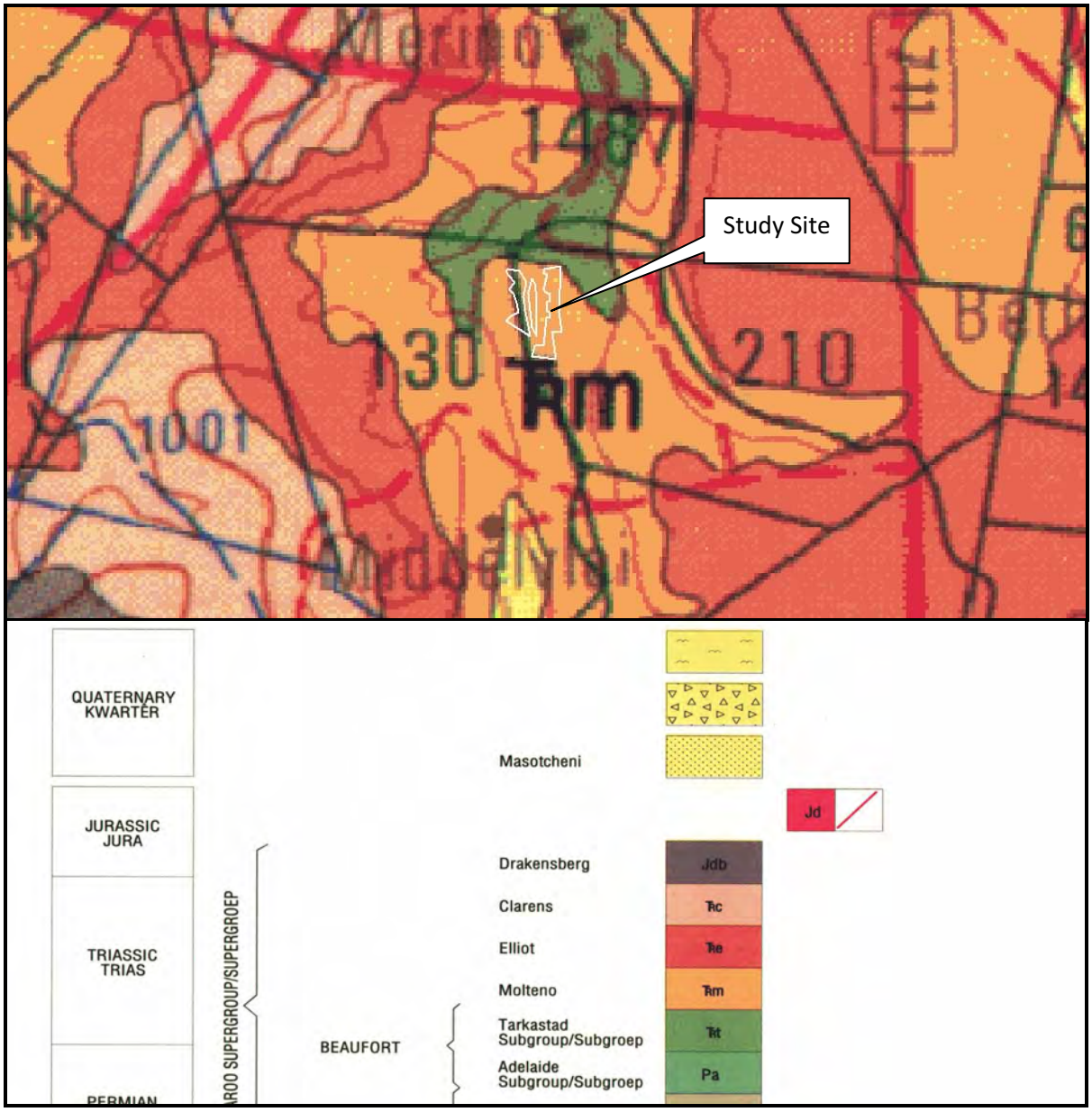

Figure 4.1 The Geology of the PV Site Development (Geo Map 2828- Harrismith)

5. PALAEONTOLOGY OF THE AREA

5.1. The Molteno Formation

The Triassic Molteno Formation can have a moderate to high potential for plant fossils from the *Dicroidium* assemblage (Johnson et al, 2006). The *Dicroidium* assemblage is an extinct genus of fork-leaved seed ferns that were distributed over Gondwanaland during the Triassic Period.

Invertebrate fossils are restricted to trace fossils. Tracks of dinosaurs have been recorded from outcrops of the Molteno Formation.

6. FIELD INVESTIGATION

The development area is dominated by rugged topography (Figure 6.1 and 6.2). The placements of proposed PV cells are mainly on the middle slopes dominated by outcrops of the Molteno Formation.

Field investigations confirmed that very few outcrops of potential fossil-rich mudstone beds are present in the study area. However several outcrops of highly bioturbated sandstone were observed.

The few mudstone outcrops are exposed in excavations for the present Merino Hydro Power Scheme on the site. Fossil material of *Dicroidium* assemblage is abundantly present although highly broken. Several unidentified tree fossils are visible in the Sandstone rubble that remained after completion of the Hydro Plant.

A set of well-defined tracks of dinosaurs (Figure 6.3) have been recorded from this locality during 2008 and the tracks are documented in a photographic report (Internal report). The dinosaur tracks are associated with a very uniquely preserved palaeosurface of ripple-marked sandstone with associated casts of desiccation cracks.

The Molteno Formation is known for the absence of vertebrate fossils.

Figure 6.1 North Western View of the proposed Development Site

Figure 6.2 North Eastern View of the Proposed Development Site

Figure 6.3 Example of the Dinosaurs Footprint on Site

7. PALAEONTOLOGICAL SIGNIFICANCE AND RATING

The predicted palaeontological impact of the development is based on the initial mapping assessment and literature reviews as well as information gathered during the field investigation.

The palaeontological significance and rating is summarised in Table 7.1 and 7.2. For the methodology and definitions of impact rating and significance see Appendix A (CES 2011).

Table 7.1 Palaeontological Significance of Geological Units on Site

Geological Unit	Rock Type and Age	Fossil Heritage	Vertebrate Biozone	Palaeontological Sensitivity
Molteno Formation	Fluvial, braided river sandstone and mudstone TRIASSIC	Plant fossils such as *Dicroidium* assemblages Invertebrate fossils are restricted to trace fossils. Uniquely preserved tracks of unidentified dinosaurs	None	High sensitivity

Table 7.2 Significance Rating Table as Per CES Template

Rock Unit	Temporal Scale (duration of impact)	Spatial Scale (area in which impact will have an effect)	Degree of confidence (confidence with which one has predicted the significance of an impact)	Impact severity (severity of negative impacts, or how beneficial positive impacts would be)		Overall Significance (The combination of all the other criteria as an overall significance)	
				With mitigation	Without mitigation	With mitigation	Without mitigation
Molteno Formation	permanent	international	possible	beneficial	very severe	beneficial	High negative

There is a possibility that tree fossils could be encountered during excavation of bedrock within the development footprint and these fossils would be of low significance. If effective mitigation measures are in place at the time of exposure, and the fossils are successfully excavated for study, this would represent a beneficial palaeontological impact.

The preserved palaeosurface with associated footprints of dinosaurs is of very high international significance and the site must be declared as a heritage site within the present and future developments.

The damage and/or loss of these trace fossils due to inadequate mitigation would be a highly negative palaeontological impact. However, the exposure and subsequent reporting of fossils (that would otherwise have remained undiscovered) to a qualified palaeontologist for excavation will be a beneficial palaeontological impact.

8. PALAEONTOLOGICAL IMPACT AND MITIGATION

The predicted palaeontological impact of the development is based on the initial mapping assessment and literature reviews as well as information gathered during the field investigation. The field investigation confirms that the area is underlain by the Molteno Formation.

The Molteno Formation consists mainly of coarse-grained sandstone with thin layers of interbedded mudstone. The excavation of sandstone on the slopes will have the potential to uncover the mud

rock and sandstone of the Molteno Formation, therefore monitoring and mitigation in terms of the palaeontological heritage are required.

The uniquely preserved palaeosurface with dinosaur tracks must be declared a heritage site and no development must be allowed in that area.

The following colour coding method was developed to classify a development area's palaeontological impact as illustrated in Figure 8.1:

- Red colouration indicates a very high possibility of finding fossils of a specific assemblage zone. Fossils will most probably be present in all outcrops on the site/route and the chances of finding fossils during the construction phase are very high.
- Orange colouration indicates a possibility of finding fossils of a specific assemblage zone either in outcrops or in bedrock on the site/route.
- Green colouration indicates that there is no possibility of finding fossils in that section of the site/route development.

Figure 8.1 Palaeontological Impact of the Proposed PV Facility

The construction phase will require excavation of bedrock and has the potential to impact directly on fossil heritage if the Molteno Formation mudstone is exposed. From Figure 8.1 the following mitigation measures are recommended:

Table 8.1 Site Specific Mitigation Measures

Colour Coding (Figure 8.1)	Mitigation Recommended
Red Sites	If possible no development should take place within this area. However if any development is required a permit for the collection and rescue of fossils must be obtained from SAHRA prior the construction phase. All earthworks activities are to be monitored by a resident palaeontologist. A monitoring report should be submitted to SAHRA after completion of the earth-moving activity
Orange Sites	The resident ECO must be trained by a professional palaeontologist in the recognition of fossils. If fossil material is later discovered it must be appropriately protected and the discovery reported to a palaeontologist for the removal thereof as per SAHRA legislation. All earth-moving activities are to be monitored by the ECO under guidance of a palaeontologist. A monitoring report should be submitted to SAHRA after completion of the earth-moving activity.

9. CONCLUSION

The development site for the PV Solar Power Facility is underlain by the Triassic Molteno Formation. There is a high potential for fossil material in the interbedded mudstones that could be uncovered during excavations.

The outcrop areas of the Molteno Formation in the development site have a moderately high palaeontological sensitivity rating. This is mainly due to the fact that no predictions of possible fossils in the sandstone is possible before actual breaking of or excavation into the sandstone Through adequate monitoring and mitigation measures during excavations the high impact severity can be lowered to beneficial. Monitoring can be done by the resident ECO under guidance of a palaeontologist The exposure and subsequent reporting of fossils (that would otherwise have remained undiscovered) to a qualified palaeontologist for excavation will have a beneficial palaeontological impact.

It is recommended that:

- The uniquely preserved palaeosurface with dinosaur tracks be declared a heritage site and that no development is allowed in that area.
- A permit for the collection and rescue of fossils from the Molteno Formation must be obtained from SAHRA.
- The resident ECO must also be trained by a palaeontologist in the recognition of fossils. If fossil material is later discovered it must be appropriately protected and the discovery reported to a palaeontologist for the removal thereof as per SAHRA legislation.
- All earth-moving activities with potential impact are to be monitored by the resident ECO under the guidance of the project appointed palaeontologist. A monitoring report should be submitted to SAHRA after completion of the earth-moving activities.

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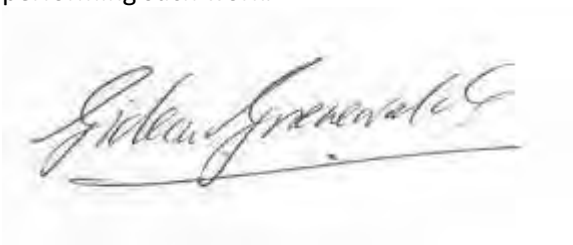
11. QUALIFICATIONS AND EXPERIENCE OF THE AUTHOR

Dr Gideon Groenewald has a PhD in Geology from the Nelson Mandela Metropolitan University (1996) and the National Diploma in Nature Conservation from the University of South Africa (1990). He specialises in research on South African Permian and Triassic sedimentology and macrofossils with an interest in biostratigraphy, and palaeoecological aspects. He has extensive experience in the locating of fossil material in the Karoo Supergroup and has more than 20 years of experience in locating, collecting and curating fossils, including exploration field trips in search of new localities in the southern, western, eastern and north-eastern parts of the country. His publication record includes multiple articles in internationally recognized journals. Dr Groenewald is accredited by the Palaeontological Society of Southern Africa (society member for 25 years).

Declaration of Independence

I, Gideon Groenewald, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of palaeontological heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.



Dr Gideon Groenewald
Geologist

12. APPENDIX A - METHODOLOGY FOR ASSESSING THE SIGNIFICANCE OF IMPACTS

Although specialists will be given relatively free rein on how they conduct their research and obtain information, they will be required to provide their reports to the EAP in a specific layout and structure, so that a uniform specialist report volume can be produced.

To ensure a direct comparison between various specialist studies, a standard rating scale has been defined and will be used to assess and quantify the identified impacts. This is necessary since impacts have a number of parameters that need to be assessed. Four factors need to be considered when assessing the significance of impacts, namely:

1. Relationship of the impact to **temporal** scales - the temporal scale defines the significance of the impact at various time scales, as an indication of the duration of the impact.

2. Relationship of the impact to **spatial** scales - the spatial scale defines the physical extent of the impact.

3. The severity of the impact - the **severity/beneficial** scale is used in order to scientifically evaluate how severe negative impacts would be, or how beneficial positive impacts would be on a particular affected system (for ecological impacts) or a particular affected party.

   The severity of impacts can be evaluated with and without mitigation in order to demonstrate how serious the impact is when nothing is done about it. The word 'mitigation' means not just 'compensation', but also the ideas of containment and remedy. For beneficial impacts, optimization means anything that can enhance the benefits. However, mitigation or optimization must be practical, technically feasible and economically viable.

4. The **likelihood** of the impact occurs - the likelihood of impacts taking place as a result of project actions differs between potential impacts. There is no doubt that some impacts would occur (e.g. loss of vegetation), but other impacts are not as likely to occur (e.g. vehicle accident), and may or may not result from the proposed development. Although some impacts may have a severe effect, the likelihood of them occurring may affect their overall significance.

The ***environmental significance*** scale is an attempt to evaluate the importance of a particular impact. This evaluation needs to be undertaken in the relevant context, as an impact can either be ecological or social, or both. The evaluation of the significance of an impact relies heavily on the values of the person making the judgment. For this reason, impacts of especially a social nature need to reflect the values of the affected society.

Negative impacts that are ranked as being of "**VERY HIGH**" and "**HIGH**" significance will be investigated further to determine how the impact can be minimised or what alternative activities or mitigation measures can be implemented. These impacts may also assist decision makers i.e. lots of **HIGH** negative impacts may bring about a negative decision.

For impacts identified as having a negative impact of "**MODERATE**" significance, it is standard practice to investigate alternate activities and/or mitigation measures. The most effective and practical mitigations measures will then be proposed.

For impacts ranked as "**LOW**" significance, no investigations or alternatives will be considered. Possible management measures will be investigated to ensure that the impacts remain of low significance.

Table 9-1: Criterion used to rate the significance of an impact

Significance Rating Table	
Temporal Scale (The duration of the impact)	
Short term	Less than 5 years (Many construction phase impacts are of a short duration)
Medium term	Between 5 and 20 years
Long term	Between 20 and 40 years (From a human perspective almost permanent).
Permanent	Over 40 years or resulting in a permanent and lasting change that will always be there
Spatial Scale (The area in which any impact will have an affect)	
Individual	Impacts affect an individual.
Localised	Impacts affect a small area, often only a portion of the project area.
Project Level	Impacts affect the entire project area.
Surrounding Areas	Impacts that affect the area surrounding the development
Municipal	Impacts affect either the Local Municipality, or any towns within them.
Regional	Impacts affect the wider district municipality or the province as a whole.
National	Impacts affect the entire country.
International/Global	Impacts affect other countries or have a global influence.
Will definitely occur	Impacts will definitely occur.
Degree of Confidence or Certainty (The confidence to predicted the significance of an impact)	
Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Only over 40% sure of a particular fact or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact or of the likelihood of an impact occurring.

Table 9-2: The severity rating scale

Impact severity (The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or party)	
Very severe	**Very beneficial**
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.
Severe	**Beneficial**
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.
Moderately severe	**Moderately beneficial**
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing the sewage treatment facility where there was vegetation with a low conservation value.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.
Slight	**Slightly beneficial**
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.
No effect	**Don't know/Can't know**
The system(s) or party(ies) is not affected by the proposed development.	In certain cases it may not be possible to determine the severity of an impact

Table 3: Overall significance appraisal

Overall Significance (The combination of all the above criteria as an overall significance)	
VERY HIGH NEGATIVE	**VERY BENEFICIAL**
These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in **severe** or **very severe** effects, or **beneficial** or **very beneficial** effects. **Example:** The loss of a species would be viewed by informed society as being of VERY HIGH significance. **Example:** The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.	
HIGH NEGATIVE	**BENEFICIAL**
These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. **Example:** The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated. **Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.	
MODERATE NEGATIVE	**SOME BENEFITS**
These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial. **Example:** The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.	
LOW NEGATIVE	**FEW BENEFITS**
These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect. **Example:** The temporary change in the water table of a wetland habitat, as these systems is adapted to fluctuating water levels. **Example:** The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.	
NO SIGNIFICANCE	
There are no primary or secondary effects at all that are important to scientists or the public. **Example:** A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.	
DON'T KNOW	
In certain cases it may not be possible to determine the significance of an impact. For example, the significance of the primary or secondary impacts on the social or natural environment given the available information. **Example:** The effect of a particular development on people's psychological perspective of the environment.	

Appendix D2: First Phase Archaeological & Heritage Assessment

COBUS DREYER
Pr. Archaeologist/Heritage Specialist

P.O. Box 12910
BRANDHOF 9324
Bloemfontein
dreyerj@telkomsa.net

Tel: 051-444 1187
Fax: 051-444 4395
Cell: 083 357 7982

21 FEBRUARY 2012

FIRST PHASE ARCHAEOLOGICAL & HERITAGE ASSESSMENT OF THE PROPOSED PV SOLAR POWER INSTALLATIONS AT MARINO 1487 NEAR BETHLEHEM, FREE STATE

EXECUTIVE SUMMARY

A Photo Voltaic Solar Power plant is planned on the farm Marino 1487 on the Asrivier (Axel River), along the R712 between Bethlehem and Clarens, Free State. The new installations will be adjacent to the Bethlehem hydro-electric power plant.

The land was examined for the occurrence of archaeological, historical and other cultural material. This investigation is a follow-up operation of the previous CIA prior to the hydro-electricity installation (2010).

The proposed site is located on a flood plain on the banks of the Asrivier, with plough lands opposite the river. The area has already been heavily disturbed by the previous installation of hydropower generators and land cultivating activities.

No cultural or historical materials were found along the river.

The geologist identified fossilised dinosaur footprints. These features are located on sandstone banks in the riverbed and will not be affected by the proposed developments.

The installation of a solar power plant will have no effect on the cultural and historical environment of the area. Further planning of the proposed project may continue, and no mitigation measures are required.

INTRODUCTION & DESCRIPTION

Scope and Limitations of the present project

The present investigation provided the opportunity to examine the land selected for the solar generator project at Marino 1487. A thick stand of tall grass restricted visibility of the soil surface, but no other limitations were experienced during site inspection.

Methodology

Standard archaeological survey and recording methods were used.

1. The area was investigated on foot.
2. The different points were plotted by GPS and recorded on camera.

INVESTIGATION

A PV solar power installation is planned at the farm Marino 1487 on the Asrivier, along the R712 between Bethlehem and Clarens. This investigation follows the previous CIA prior to the hydro-electricity installation (2010).

There is a need for the provision of solar power that will supplement electricity supply to the existing power grid. Solar power is considered a desirable energy production method as its utilisation has no adverse bi-products. The method of harnessing solar energy is relatively innocuous in comparison to fossil fuel electricity production. Most existing land use practices can also continue with little interruption.

The site will have panels of photo voltaic (PV) cells on frames for which minor earthworks may be required to ensure the correct orientation of the panels.

The proposed site was examined on 9 February 2011 in the company of Dr Gideon Groenewald, a geologist from Metsi Metseng Geological Services, Bethlehem.

The study aims to locate and evaluate the significance of cultural heritage sites, archaeological material, manmade structures older than 60 years, and sites associated with oral histories and graves that might be affected by the proposed development.

The area was examined for possible archaeological and historical material and to establish the potential impact on any cultural material that might be found. The Heritage Impact Assessment (HIA) is done in terms of the National Heritage Resources Act (NHRA), (25 of 1999) and under the Environmental Conservation Act, (73 of 1989).

The Iron Age archaeology of the Free State was described by Maggs (1976) and summarised by Dreyer (1996). Iron Age stone-walled sites are normally restricted to higher ground or hilly parts of the northern and eastern Free State and are normally not found in the low-lying open areas along the rivers.

Stone Age lithic material is similarly not likely to be found on alluvial clay deposits of the flood plains or along water drainage courses.

LOCALITY

The farm Marino 1487 borders on the Asrivier (Axel River) along the R712 between Bethlehem and Clarens, Free State (Map 1). The new installations will be near the hydro-electric power plant of the Bethlehem-Hydro Company. The site is reached along a turn-off from the S217 (Maps 2&3).

There are maize fields on one side very close to the weir (Fig.4).

This investigation is a follow-up operation of the previous CIA prior to the hydro-electricity installation (2010). The whole area was heavily disturbed by the installation of the hydro-electricity plant (Figs.1&2).

The following GPS coordinates (Cape scale) were taken (2828AD).

A	28°22’09”S 028°21’43”E	Alt. 1694m (Figs.1&6).
B (Fossil Tracks)	28°21’57”S 028°21’40”E 28°21’54”S 028°21’40”E	Alt. 1672m (Figs.7-9). Alt. 1674m.
C	28°21’50”S 028°21’43”E	Alt. 1683m (Figs.10&11).
D	28°21’49”S 028°21’47”E	Alt 1679m (Figs.12&13).

RESULTS

FINDS

During an earlier investigation in the area, rock-paintings were found in cliff overhangs (Groenewald 2003).

Fossilised dinosaur footprints were found by the geologist (Fig.9). These features are located on sandstone banks in the riverbed and will not be affected by the proposed developments (Figs.7&8).

No other archaeological, cultural or historical material was found on the surface.

ASSESSMENT OF IMPACT

The development of the solar power plant near the hydro-electricity installation will have no effect on any cultural and historical environment of the area.

MITIGATION

No mitigation measures will be required during the installation of the solar power plant at Marino 1487.

RECOMMENDATIONS

Further planning of the proposed project may continue and no mitigation measures are required.

ACKNOWLEDGEMENTS

I thank Dr Gideon Groenewald, geologist from Metsi Metseng Geological Services, Bethlehem, for taking us to the site.

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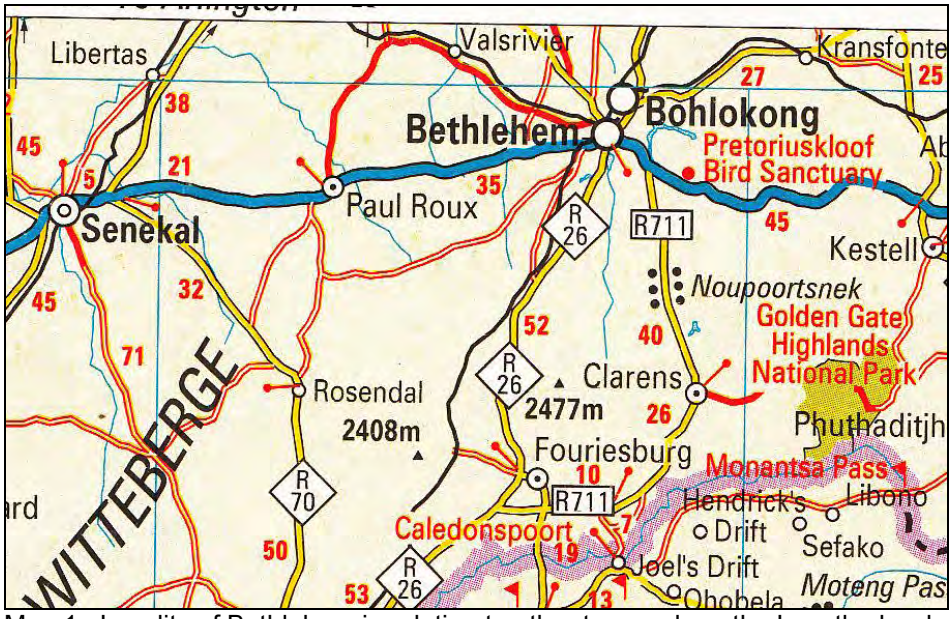
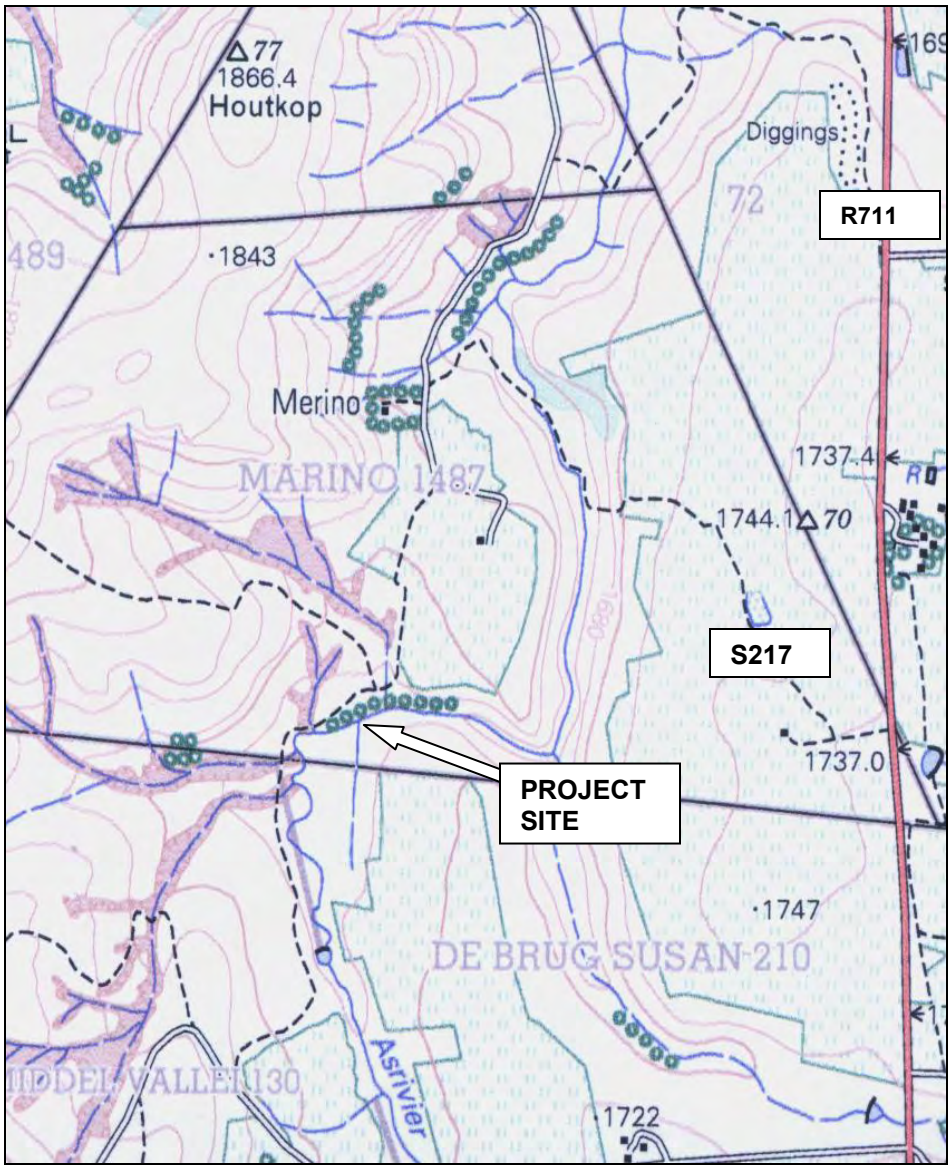
LIST OF ILLUSTRATIONS

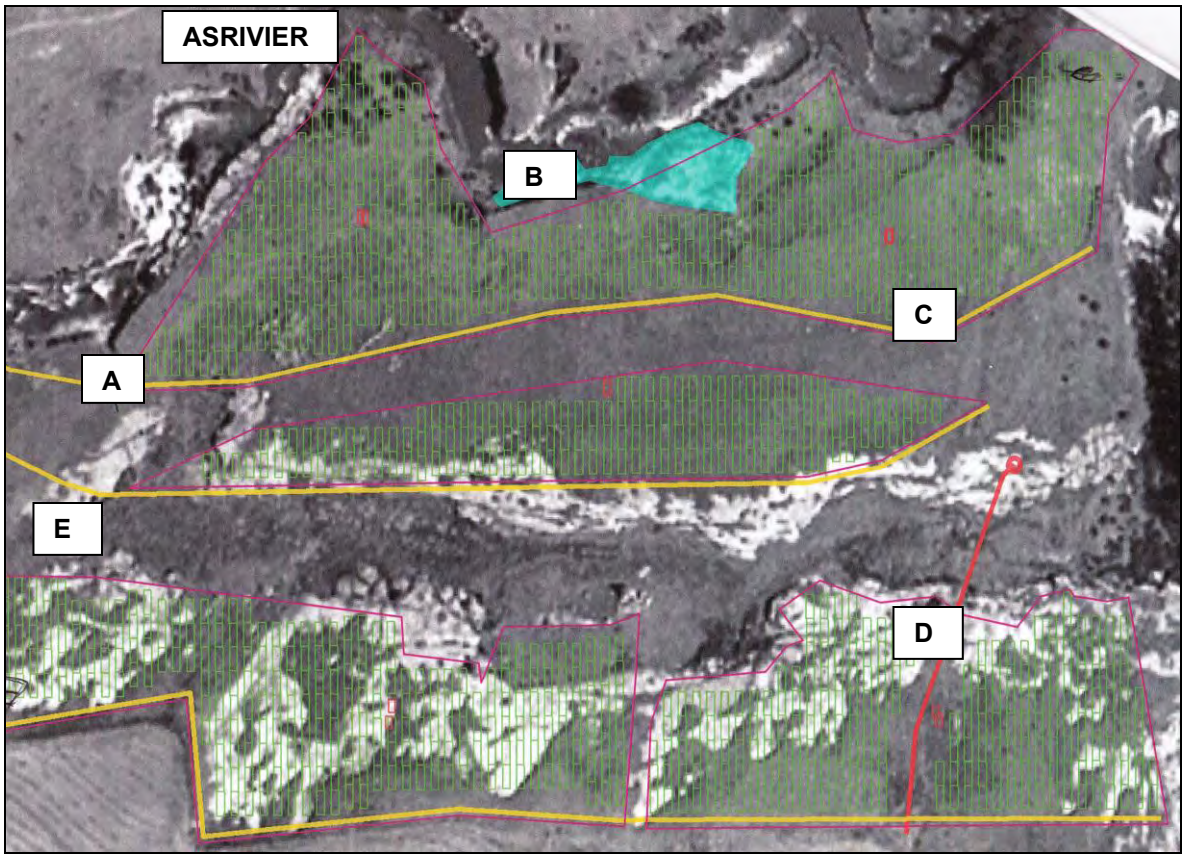


Map 1 Locality of Bethlehem in relation to other towns along the Lesotho border.

Fig.1 Weir in the Asrivier for hydro-electricity plant at Point A, Marino 1487.



Map 2 The new solar electricity plant at he farm Marino 1487 along the R711 road between Bethlehem and Clarens (2828AD).



Map 3 Placing of the developments along the Asrivier at Marino 1487, Bethlehem (2828AD).

Fig.2 Water extraction channel (right) and the original flow of the Asrivier (left).

Fig.3 Hydro-electric plant at Marino 1487.

Fig.4 Maize fields near Point A at Marino 1487.

Fig.5 Water washed pebbles of chalcedony and agate found on the riverbank.

Fig.6 Point A at Marino 1487 facing south towards the Visierskerf and Sikonyella's Hoed.

Fig.7 Point B at Marino 1487, Bethlehem along the Asrivier.

Fig.8 Point B in the river bed at Marino 1487, Bethlehem along the Asrivier.

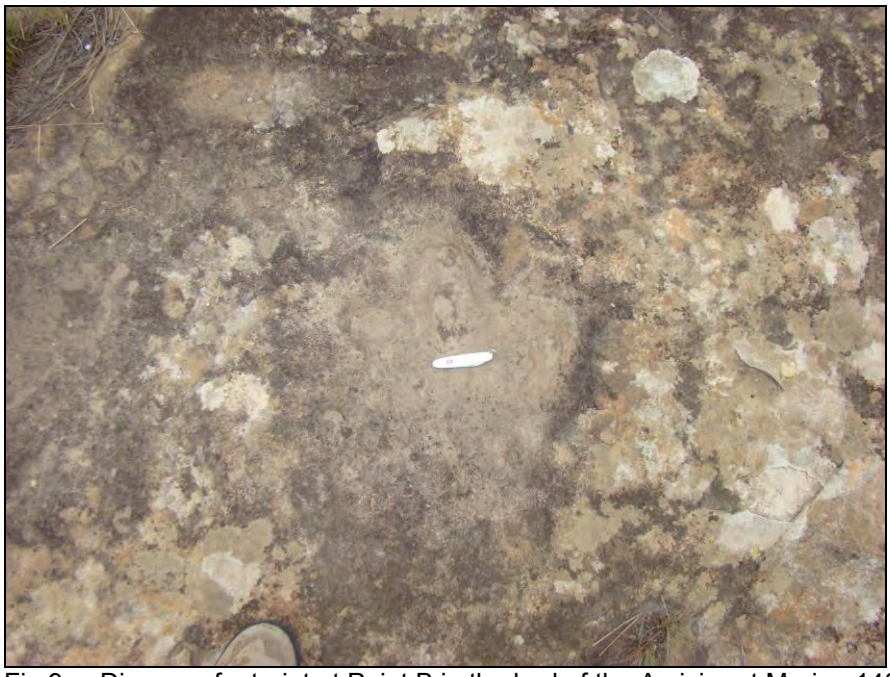


Fig.9 Dinosaur footprint at Point B in the bed of the Asrivier at Marino 1487, Bethlehem. Pocketknife = 84mm.

Fig.10 Point C on the water extraction channel at Marino 1487, Bethlehem along the Asrivier.

Fig.11 Point C on the water extraction channel at Marino 1487, Bethlehem along the Asrivier.

Fig.12 Sandstone bank at Point D, Marino 1487, Bethlehem along the Asrivier.

Fig.13 The hydro-electric plant seen from Point D, Marino 1487, Bethlehem along the Asrivier.

Appendix D3: Photographic Report Indicting Dinosaur Footprints on the Farm De Brug Susan 210

Photo Report of Farm Merino 1487, Portion 2

The Photo Report below contains photos of Dinosaur Footprints discovered on the Farm De Brug Susan 210 by Mr Anton-Louis Olivier (NuPlanet) and Mr Barend Smit (Aurecon) during construction of the Bethlehem Hydro. Please note that this site was protected and preserved during construction of the Bethlehem Hydro Project and the same will be done during construction of the Merino PV Plant. Figure 1 below indicates the location of the rocky outcrops on which the footprints are evident.

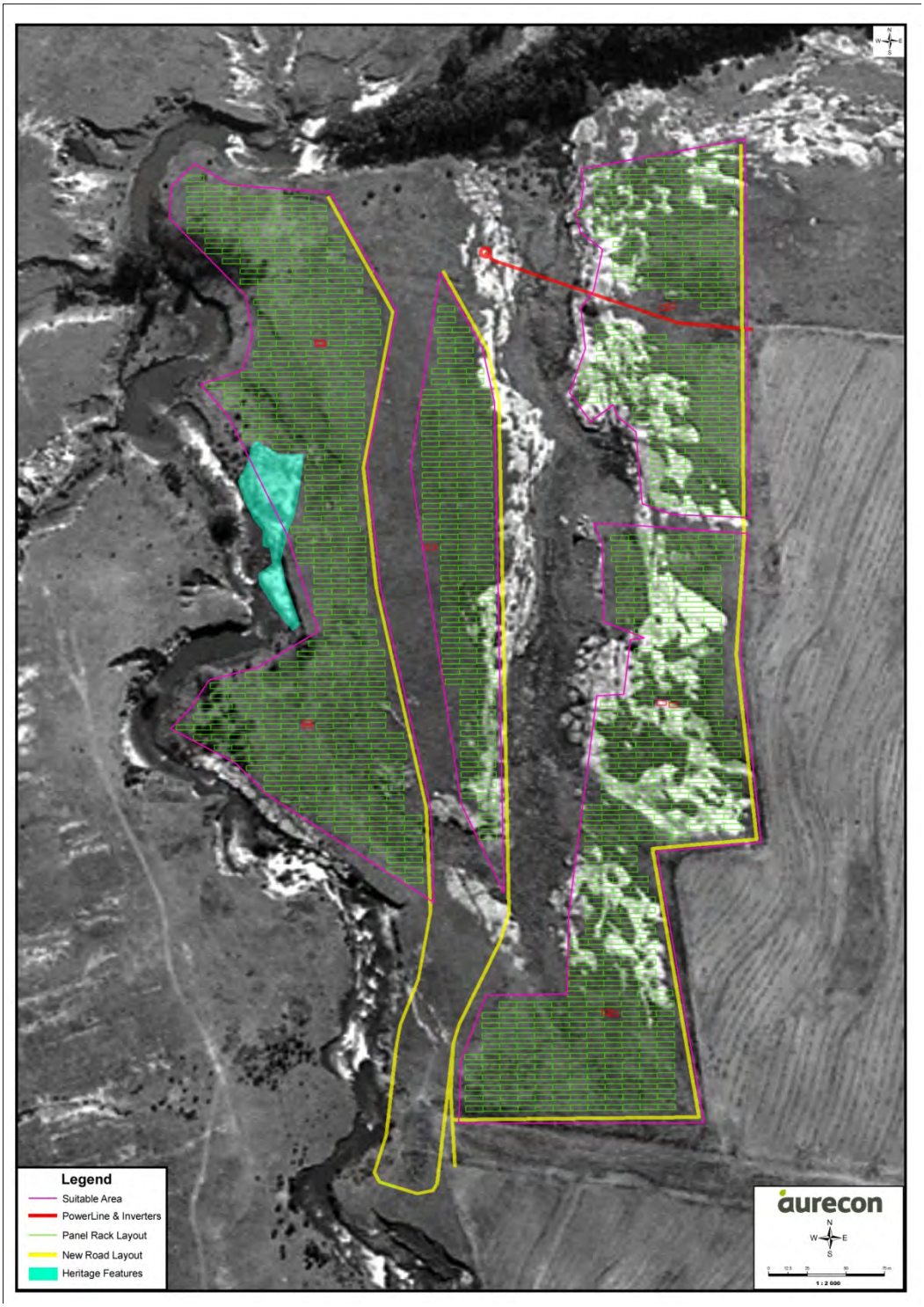


Figure 1: Footprint of the Photovoltaic Power Plant indicating location of the Dinosaur Footprints

Appendix E: Public Participation Information

Appendix E1: Proof of Site Notice

DEVELOPMENT OF A PHOTOVOLTAIC POWER PLANT ON FARM MERINO 1487

Photo Report of Advertising

6th October 2011

Photo 1: The Dihlabeng Municipality where Notice of Environmental Authorisation (EA) is placed

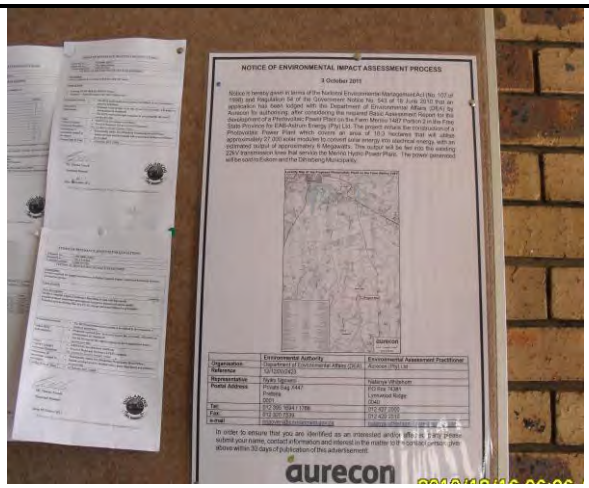


Photo 2: Notice of EA placed on a notice board at the entrance to the Dihlabeng Municipality

Photo 3: The Bethlehem Public Library where Notice of EA is placed

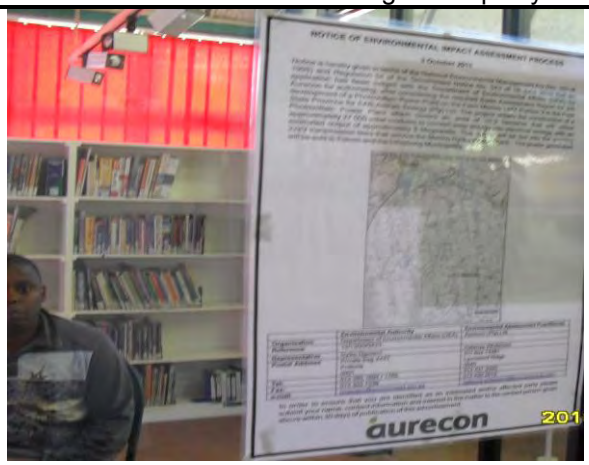


Photo 4: Close up of the Notice of EA placed inside the Bethlehem Public Library on a display window

Photo 5: View of the Display window inside the Bethlehem Public Library

Photo 6: Notice of EA placed at the entrance to access road to the Bethlehem Hydro on Farm Merino 1487 and facing the T563 Divisional Council Road

Photo 7: Notice of EA placed at the entrance to access road to the Bethlehem Hydro on Farm Merino 1487

Photo 8: Notice of EA placed at the bridge across the Ash River on the access road to the Bethlehem Hydro

Photo 9: Notice of EA attached to the fence in close vicinity to the diversion weir at the Bethlehem Hydro	**Photo 10:** View of the Notice of EA and the diversion weir at the Bethlehem Hydro
 **Photo 11:** Notice of EA attached to the fence at the intake canal at the Bethlehem Hydro	 **Photo 12:** View of the spillway at the intake canal
 **Photo 13:** Notice of EA placed inside a window at the Clarens Trading Post in Clarens	 **Photo 14:** Close up of the Notice of EA placed inside a window at the Clarens Trading

Appendix E2: Background Information Document (BID)

BASIC ASSESSMENT FOR THE DEVELOPMENT OF A PHOTOVOLTAIC PLANT ON FARM MERINO 1487 -FREE STATE PROVINCE

BACKGROUND INFORMATION DOCUMENT
INVITATION TO REGISTER AND COMMENT

DEA PROJECT REFERENCE NUMBER: **12/12/20/2423**

PURPOSE OF THIS DOCUMENT

The purpose of this Background Information Document (BID) is to provide stakeholders with the opportunity to register as interested and affected parties in the Basic Assessment Process and to obtain their initial comments on the proposed development of a Photovoltaic Plant on Farm Merino 1487, Portion 2.

The purpose of the Basic Assessment is to identify and evaluate feasible alternatives and potential impacts, and to recommend measures to avoid or reduce negative impacts and enhance positive impacts. The decision-making authority is the Department of Environmental Affairs (DEA) in accordance with the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and the Environmental Impact Assessment Regulations, 2010 (Version 1).

Please register yourself as an interested and affected party and submit your comments on the proposed project by 4 November 2011.

Either complete a Response Form, write a letter, call or e-mail the public participation office.

Public Participation office
Natanya Whitehorn
Aurecon South Africa (Pty) Ltd
PO Box 905, Pretoria, 0001
Tel: (012) 427 2000
Fax: 086 574 2929
Email:
natanya.whitehorn@aurecongroup.com

BACKGROUND

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to provide services for the Basic Assessment of the proposed development of a Photovoltaic plant on the Farm Merino 1487.

The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity. In total, roughly 27000 PV modules will be utilised to produce approximately 6MW of energy fed into the existing 22kV power lines at the Merino Hydro Power Plant. The Merino Hydro Power Plant which is the only generator on the existing line, generating a maximum capacity of 3.45MW of energy leaving sufficient capacity for the Photovoltaic Power Plant. Power so generated will be sold to ESKOM and the Dihlabeng Municipality.

APPLICABLE LEGISLATION

Regulation 544, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA) as amended, lists activities identified in terms of Section 24(2)(a) and (d) of the Act, which may not commence without environmental authorisation from the competent authority. The investigation, assessment and communication of potential impact of activities must follow the procedure as described in Regulations 21 to 25 of the Environmental Impact Assessment Regulations, 2010, Promulgated in terms of Section 24(5) of the Act.

Who is doing the Basic Assessment Report (BAR)?

NuPlanet (Pty) Ltd, the developer of Bethlehem hydro plant has partnered with astrum energy (Pty) to construct the 6MW PV Plant. EAB-Astrum Energy (Pty) Ltd Joint Venture has, in line with the NEMA guidelines appointed Aurecon as independent consultants to conduct the Basic Assessment Process. Aurecon is familiar with the project area and is known for their proven independence in assessment of impacts and assisting stakeholders to contribute to the Environmental Assessment.

What is Photovoltaics?

A photovoltaic cell, commonly called a solar cell or PV, is used to convert solar energy into electrical power. PV cells can be made of various materials that act as semiconductors. When light strikes the cell, a certain portion of it is absorbed within the PV Cell. This means that the energy of the absorbed light is transferred to the semiconductor. The energy knocks electrons loose, allowing them to flow freely. The PV cell has electric fields that act to force electrons freed by light absorption to flow in a certain direction. This flow of electrons is a current, and by placing metal contacts on the top and bottom of the PV cell, the current can be drawn off to use externally. © Astrum Energy (Pty) Ltd

With reference to regulation 544, promulgated in terms of the NEMA, Section 1(a)ii and 6 is scheduled as:

> **1ii-***"The construction of facilities or infrastructure, including associated structures or infrastructure, for the generation of electricity where the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare;*

A Basic Assessment (BA) is a planning and decision-making tool used to identify potential negative and positive consequences of a proposed project, and recommends ways to enhance positive impacts and to avoid or reduce negative impacts.

The BA will address the following aspects:

- Public Consultation;
- Technical Consultation;
- Authority Consultation;
- Identification of Specialist Study requirements;
- Authority and Stakeholder comment incorporation into Documentation; and
- Authority decision making process as well as public appeal opportunity.

The Proposed Project

The proposed project for farm the Merino 1487 Portion 2, which is located approximately 14 km south of the town of Bethlehem entails the construction of solar panel racks placed at an approximately 30° angle to the ground level.

The proposed development of the Photovoltaic plant will convert the solar energy into electric energy via the PV cells. The approximately 6 MW electricity generated from the Photvoltaic plant will be then converted from DC to 3 phase 380AC via power inverters. The voltage will then be stepped up to 22kV via transformers that will be fed into the the same 22kV power lines of the Merino Hydro Power Plant. The dedicated power lines runs to the Eskom Node Substation with a capacity of 10MVA which feeds into the Eskom grid.

(Please refer to **Figure 1 and 2** for examples of Photovoltaic Plants and / or solar panels. **Figure 3** is a general locality map of the proposed site and surrounds.

Please note that project details may change as investigations proceed.

PRESUMED ISSUES

Environmental issues that may be addressed in the Report could include the following:

- Biodiversity;
- Surface water management;
- Air quality;
- Noise; and
- Visual

Mitigation measures will also be developed for identified issues. Stakeholders are however welcome to comment on these issues and provide additional observations.

Consideration of Alternatives is one of the most critical elements of the BA process. Its role is to provide a framework for sound

decision-making based on the principle of sustainable development.

Alternatives should be identified as early as possible in the project cycle. Aurecon not only welcomes stakeholders' input/suggestions, but also urges the public to submit possible alternatives.

It is important to note that an alternative is defined as a possible course of action, in place of another, that would meet the same **purpose** and **need**.

When submitting alternatives, the recommended alternative must be:

- Practicable;
- Feasible;
- Relevant;
- Reasonable; and
- Viable.

Process to be followed

The Environmental Impact Assessment Regulations 2010, is to be undertaken for this project.

1. Stakeholder Engagement:

During this phase (which is currently running), it is usual to consult with:

- Relevant Authorities at various levels;
- Relevant stakeholders;
- The Proponent; and
- The Public at large.

The Stakeholder Engagement Process is designed to illicit a joint effort by stakeholders to produce better decisions than if they had acted independently. The primary aim of such a process is to facilitate better decision-making.

The following activities will be utilised to achieve the aforementioned objectives:

- Advertising: On-site and in Local Newspaper (Maluti, Vrystaat and Volksblad); and
- Supplying all affected parties with the opportunity to comment and register.

2. Environmental Assessment of Current Site Conditions

The assessment of current conditions will include a description of the property on which the activity is to be undertaken and the location of the activity on the property.

3. A Description of the Proposed Activity

This will include a description of the activity that is to be undertaken, the exact location of the activity on the property and the development footprint of the activity.

4. Description of the Environment which may be affected

This description will include an assessment of the manner in which the geological, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity.

5. Description of Need and Desirability of the Proposed Activity and Identification of Alternatives

This section will discuss the need and desirability of the proposed activities and any identified alternatives to the proposed activities that are feasible and reasonable. It will include identification of the advantages and disadvantages which the proposed activity or alternatives will have on the environment and on the community that may be affected by the activities.

6. Description and Assessment of the Significance of Environmental Impacts

This section will include a description and assessment of the significance of any environmental impacts, which may occur as a result of the undertaking of the activity or identified alternatives.

The Basic Assessment Report (BAR) will be submitted to the authorities for decision-making. Their decision will be provided in a written authorisation. Once the authorisation has been received, letters will be sent out, notifying the registered Interested and Affected Parties (I&APs) of the authorisation and where it will be available to view.

The authority responsible for administering and implementation of the above legislation in this case is the Department of Environmental Affairs (DEA). The DEA serves as the competent authority for all projects relating to power generation in South Africa.

How you can get involved

Public participation is a key component of this EIA process and will take place at various stages throughout the project.

Should you wish to raise any issues or concerns regarding the proposed project, or if you wish to register as an I&AP, please contact the Public Participation Office.

YOUR COMMENT IS IMPORTANT

Your comment on any aspect of the proposed project, the BA, its public participation process and issues that need to be investigated, will help focus the process and assist the authorities in their decision making.

Figure 1: An Example of a Photovoltaic Power Plant

Figure 2: An Example of a Photovoltaic Power Plant

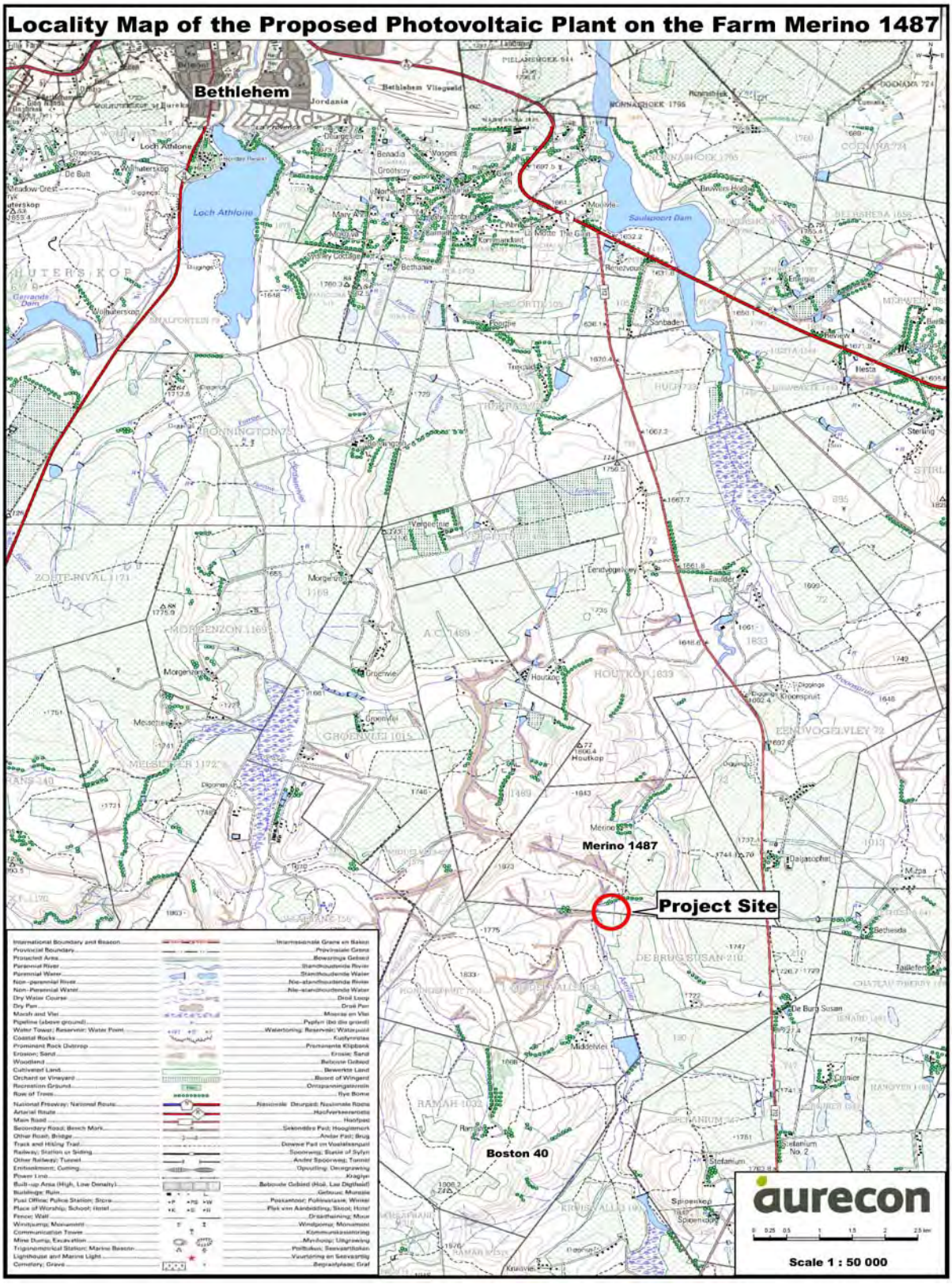


Figure 3: Locality Map for proposed Photovoltaic Power Plant on farm Merino 1487, Portion 2

aurecon

BASIC ASSESSMENT FOR
THE DEVELOPMENT OF A PHOTOVOLTAIC PLANT ON FARM MERINO 1487
-FREE STATE

BACKGROUND INFORMATION DOCUMENT
INVITATION TO REGISTER AND COMMENT

DEA PROJECT REFERENCE NUMBER: **12/12/20/2433**

Please complete and return to Aurecon by 4 November 2011

PO Box 74381 Lynwood Ridge 0040
Tel: (012) 427 2000
Fax: 086 574 2929
E-mail:
natanya.whitehorn@aurecongroup.com

TITLE		**FIRST NAME**	
INITIALS		**SURNAME**	
ORGANISATION			
POSTAL ADDRESS			
		POSTAL CODE	
TEL NUMBER		**FAX NUMBER**	
CELL NUMBER			
E-MAIL			

Yes, I would like to participate in this Basic Assessment ☐ YES

No, I am not interested ☐ NO

COMMENTS: (please use separate sheets if you wish)

1. The following issues must be considered in the Basic Assessment Process:
……
……
……
……
……

2. Please add the following colleagues/friends to your mailing list:
……
……
……

We thank you for your participation

Appendix E3: Written Notices to I&APs and Stakeholders

Natanya Whitehorn

From: Natanya Whitehorn
Sent: 06 October 2011 12:08 PM
To: 'gerrie.roetz@gmail.com'; 'mkhosana@dteea.fs.gov.za'; 'erasmusc@dteea.fs.gov.za'; 'ntilit@dwaf.gov.za'; 'lhoy@randwater.co.za'; 'gandrews@randwater.co.za'
Subject: Background Information Document - Development of a Photovoltaic Plant on the Farm Merino 1487
Attachments: Draft_BID_vo2.pdf

Dear sir / madam,

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Attached please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat during the next two weeks.

Please register yourself as an interested and affected party / stakeholder and submit your comments on the proposed project to the undersigned.

Kind regards

Natanya Whitehorn I BA Hons Geography
Environmental Services I Aurecon
T +27 12 427 3081 I **M** +27 82 214 3713
E Natanya.Whitehorn@aurecongroup.com
Aurecon Centre, Lynnwood Bridge Office Park, 4 Daventry Str, Lynnwood Manor, 0081, Tshwane I South Africa
aurecongroup.com

Leading. Vibrant. Global.

DISCLAIMER

Natanya Whitehorn

From: Natanya Whitehorn
Sent: 06 October 2011 12:13 PM
To: 'amosima@dihlabeng.co.za'
Subject: Background Information Document - Development of a Photovoltaic Plant on the Farm Merino 1487
Attachments: Draft_BID_vo2.pdf

Dear madam,

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Attached please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat during the next two weeks.

Please register yourself as an interested and affected party / stakeholder and submit your comments on the proposed project to the undersigned.

Kind regards

Natanya Whitehorn I BA Hons Geography
Environmental Services I Aurecon
T +27 12 427 3081 I **M** +27 82 214 3713
E Natanya.Whitehorn@aurecongroup.com
Aurecon Centre, Lynnwood Bridge Office Park, 4 Daventry Str, Lynnwood Manor, 0081, Tshwane I South Africa
aurecongroup.com

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Please consider your environment before printing this e-mail

DISCLAIMER

Tshwane
Aurecon Centre
Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

PO Box 74381
Lynnwood Ridge 0040
South Africa

T +27 12 427 2000
F +27 86 556 0521
E tshwane@aurecongroup.com
W aurecongroup.com

107450/BHJS/BAR/PPP

07 October 2011

Rand Water
Environmental Management Services
P.O. Box 1127
Johannesburg
2000

Dear Sir / Madam,

BOSTON & OUHOUT HYDRO POWER SCHEMES EIA

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Enclosed please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat between 04 and 11 October 2011.

Please register yourself as an Interested and Affected Party / stakeholder and submit your comments on the proposed project to the undersigned.

Yours faithfully

Aurecon

p.p.

B.H.J SMIT Pr L Arch
Technical Director

N Whitehorn

Aurecon South Africa (Pty) Ltd Reg No 1977/003711/07
Board of Directors (05/2011)
BMH Tsita (Chairperson), Dr GT Rohde (Chief Executive), PC Blersch, MG Diliza, ZB Ebrahim, AB Geldenhuys, Dr NN Gwagwa,SA le Roux, AW Möhr, Dr PC Lombard, Dr DM Triegaardt

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Tshwane
Aurecon Centre
Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

PO Box 74381
Lynnwood Ridge 0040
South Africa

T +27 12 427 2000
F +27 86 556 0521
E tshwane@aurecongroup.com
W aurecongroup.com

107450/BHJS/BAR/PPP

07 October 2011

Mandoryn Dertien (Pty) Ltd / Clarens Valley Fruits
P.O. Box 357
Bethlehem
9700

Attention: Mr. BA Staples

Dear Sir,

BOSTON & OUHOUT HYDRO POWER SCHEMES EIA

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Enclosed please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat between 04 and 11 October 2011.

Please register yourself as an Interested and Affected Party / stakeholder and submit your comments on the proposed project to the undersigned.

Yours faithfully

Aurecon

p.p.

B.H.J SMIT Pr L Arch
Technical Director

N Whitehorn

Aurecon South Africa (Pty) Ltd Reg No 1977/003711/07
Board of Directors
BMH Tsita (Chairperson), Dr GT Rohde (Chief Executive), PC Blersch, MG Diliza, ZB Ebrahim, AB Geldenhuys, Dr NN Gwagwa,SA le Roux, AW Möhr, Dr PC Lombard, Dr DM Triegaardt

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*Under licence from Aurecon Group Brand (Pty) Ltd Reg no 2009/035924

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Tshwane
Aurecon Centre
Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

PO Box 74381
Lynnwood Ridge 0040
South Africa

T +27 12 427 2000
F +27 86 556 0521
E tshwane@aurecongroup.com
W aurecongroup.com

107450/BHJS/BAR/PPP

07 October 2011

Majormatic 177 (Pty) Ltd
P.O. Box 357
Bethlehem
9700

Attention: Mr. Mark Jankielson

Dear Sir,

BOSTON & OUHOUT HYDRO POWER SCHEMES EIA

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Enclosed please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat between 04 and 11 October 2011.

Please register yourself as an Interested and Affected Party / stakeholder and submit your comments on the proposed project to the undersigned.

Yours faithfully

Aurecon

p.p.

B.H.J SMIT Pr L Arch
Technical Director

N Whitehorn

Aurecon South Africa (Pty) Ltd Reg No 1977/003711/07
Board of Directors (De/2011)
BMH Tsita (Chairperson), Dr GT Rohde (Chief Executive), PC Blersch, MG Diliza, ZB Ebrahim, AB Geldenhuys, Dr NN Gwaqwa,SA le Roux, AW Möhr, Dr PC Lombard, Dr DM Trieqaardt

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Tshwane
Aurecon Centre
Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

PO Box 74381
Lynnwood Ridge 0040
South Africa

T +27 12 427 2000
F +27 86 556 0521
E tshwane@aurecongroup.com
W aurecongroup.com

107450/BHJS/BAR/PPP

07 October 2011

Dihlabeng Local Municipality
P.O. Box 551
Bethlehem
9700

Attention: Mr. O Lotriet

Dear Sir,

BOSTON & OUHOUT HYDRO POWER SCHEMES EIA

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Enclosed please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat between 04 and 11 October 2011.

Please register yourself as an Interested and Affected Party / stakeholder and submit your comments on the proposed project to the undersigned.

Yours faithfully

Aurecon

p.p.

B.H.J SMIT Pr L Arch
Technical Director

N Whitehorn

Aurecon South Africa (Pty) Ltd Reg No 1977/003711/07
Board of Directors
BMH Tsita (Chairperson), Dr GT Rohde (Chief Executive), PC Blersch, MG Diliza, ZB Ebrahim, AB Geldenhuys, Dr NN Gwagwa,SA le Roux, AW Möhr, Dr PC Lombard, Dr DM Triegaardt

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Tshwane
Aurecon Centre
Lynnwood Bridge Office Park
4 Daventry Street
Lynnwood Manor 0081

PO Box 74381
Lynnwood Ridge 0040
South Africa

T +27 12 427 2000
F +27 86 556 0521
E tshwane@aurecongroup.com
W aurecongroup.com

107450/BHJS/BAR/PPP

07 October 2011

South African Heritage Resources Agency
Standard Bank House
15 West Burger Street
Bloemfontein
9301

Dear Sir / Madam,

BOSTON & OUHOUT HYDRO POWER SCHEMES EIA

Aurecon South Africa (Pty) Ltd was appointed by EAB-Astrum Energy (Pty) Ltd to conduct the Basic Assessment Process for the proposed development of a Photovoltaic Power Plant on the farm Merino 1487 in the Free State Province. The project entails the construction of a Photovoltaic (PV) Power Plant that will produce approximately 6MW of electricity which will be fed into the existing 22kV power lines at the Merino Hydro Power Plant. Power so generated will be sold to Eskom and the Dihlabeng Municipality.

Enclosed please find the Background Information Document for the project mentioned above. The purpose of this document is to provide potential stakeholders with the opportunity to register as Interested and Affected Parties in the Basic Assessment Process and to illicit initial comments on the proposed project. Newspaper advertisements are also appearing in the Maluti, Volksblad and Vrystaat between 04 and 11 October 2011.

Please register yourself as an Interested and Affected Party / stakeholder and submit your comments on the proposed project to the undersigned.

Yours faithfully

Aurecon

p.p.

B.H.J SMIT Pr L Arch
Technical Director

N Whitehorn

Aurecon South Africa (Pty) Ltd Reg No 1977/003711/07
Board of Directors
BMH Tsita (Chairperson), Dr GT Rohde (Chief Executive), PC Blersch, MG Diliza, ZB Ebrahim, AB Geldenhuys, Dr NN Gwagwa,SA le Roux, AW Möhr, Dr PC Lombard, Dr DM Triegaardt

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Appendix E4: Copy of the Register of I&APs

aurecon

Registered Interested and Affected Parties
October 2011

Name	Surname	Organisation	Contact Number	Facsimile	Email
Mark	**Jenkelson**	**Landowner Merino 1487**	082 374 7500		markj@vodamail.co.za
Hugo	**Van Doornick**	**Asrivier Conservancy & Landowner**	058 256 1143	086 652 8026	Naledi@vodamail.co.za
Louw	**Van Biljon**	**Spatium Environmental Design, Asrivier Bewarea**	058 256 1195 082 777 2647	086 513 1531	spatium@isat.co.za
Dirk	**Viljoen**				dirkvil@isat.co.za
Johann	**Steyn**				mvdbeth@imaginet.co.za
Rodney	**Wainwright**				rwainwright@icon.co.za
Michael	**Ferreira**				sanet.ferreira@afgri.co.za
Gregg	**Mousley**				gmousley@netralink.net
De Wet	**van Aswegen**	**Metsi Metseng Geological & Environmental Services**	082 417 1356	086 242 2319	Private Bag X 62 Suite 91 Bethlehem 9700 dewet@mmges.co.za
Winifred	**Staples**	**Clarens Valley Fruit**	083 459 1353	058 303 8265	PO Box 337 Bethlehem 9700 bstaples@xsinet.co.za

Appendix E5: Copy of the Register of Stakeholders

Name	Surname	Organisation	Contact Number	Facsimile	Email/ Address
		SAHRA	051 430 4139	051448 2536	Standard Bank House 15 West Burger Street Bloemfontein 9301 info@sahra.org.za
Leslie	**Hoy**	**Rand Water**	011 724 9352	011 900 2108	lhoy@randwater.co.za
Gail	**Andrews**	**Rand Water**	011 724-9360	011 900 1208	gandrews@randwater.co.za
		Department Of Water Affairs- Free State			PO Box 528 Bloemfontein 9300
Maria	**Mpakane**	**Bethlehem Public Library**	078 2811 320		C/o Boshoff and Camebridge Streets.
Angela	**Mosima**	**Dihlabeng municipality**	058 303 5732		amosima@dihlabeng.co.za

Appendix E6: Proof of Newspaper Advertisements

New Furniture Retail Store opening in Bethlehem, has the following vacancies:
Branch Manager:
Requirements: Matric , driver's licence, management experience essential.
Credit Manager:
Requirements: Matric driver's licence, management experience essential.
Sales Staff:
Requirements: Good communication skills. Willingness to work hard. Preference will be given to Affirmative Action candidates.
Fax your CV to 058 303 9533
Closing date: 11/10/2011
If no feedback was received by 30/10/2011, please accept that your application was unsuccessful.

120 Amptelike kennisgewings

120: AANSOEK TWEEDE WOONEENHEID
Kennis geskied hiermee dat **Regina Anwary** aansoek by die Dihlabeng Plaaslike Munisipaliteit gaan doen vir spesiale toestemming om 'n addisionele wooneenheid op te rig, op Erfnommer **3154,** volledige straatadres: **Gemsbokstraat 28, La Provence,** geleë te Bethlehem (dorp).
Enige persoon wat beswaar teen die voorgestelde bedryf het, moet sonadige beswaar by die Applikant en die Munisipale Bestuurder indien, binne 14 dae na die laaste verskyning van hierdie kennisgewing.
Die Applikant: R Anwary
Adres: Straat: Gemsbokstraat 28, La Provence, Bethlehem 9700.
Posadres: Posbus 2760, Bhm
Telefoon: 073°535°5796

120: AANSOEK TWEEDE WOONEENHEID
Kennis geskied hiermee dat **Samuel Nhlapo** aansoek by die Dihlabeng Plaaslike Munisipaliteit gaan doen vir spesiale toestemming om 'n addisionele wooneenheid op te rig op Erfnommer **3988,** volledige straatadres, **Faan Houghstraat 9, Panorama** geleë te Bethlehem (dorp).
Enige persoon wat beswaar teen die voorgestelde bedryf het, moet sodanige beswaar by die applikant en die munisipale bestuurder indien binne 14 dae na die laaste verskyning van hierdie kennisgewing.
Die Applikant: S Nhlapo
Adres: Straat: Faan Houghstraat 9, Panorama, Bethlehem
Posadres: Selfde as bo
Telefoon: 079°116°3728

120: AANSOEK TWEEDE WOONEENHEID
Kennis geskied hiermee dat **Shane Ritchie** aansoek by die Dihlabeng Plaaslike Munisipaliteit gaan doen vir spesiale toestemming om 'n addisionele wooneenheid op te rig op Erfnommer **R/1102,** volledige straatadres **Sonopstraat 10,** geleë te Bethlehem (dorp).
Enige persoon wat beswaar teen die voorgestelde bedryf het, moet sodanige beswaar by die Applikant en die Munisipale Bestuurder indien, binne 14 dae na die laaste verskyning van hierdie kennisgewing.
Die Applikant: S Ritchie
Adres: Straat: Sonopstraat 10, Bethlehem 9700
Posadres: Posbus 1149, Bethlehem 9700
Telefoon: 058°303°3030

120: APPLICATION ADDITIONAL DWELLING
Notice is hereby given that **Regina Anwary** intends to apply to the Dihlabeng Local Council for special permission to erect an additional dwelling on Erf number **3154** complete street address: **28 Gemsbok Street, La Provence** situated in Bethlehem (town) .
Any person opposed to the proposed operation must lodge such complaint to the Applicant and the Municipal Manager within 14 days to the last publication of this notice.
The Applicant: R Anwary
Address: Street: 28 Gemsbok Street Bethlehem 9700
Postal: PO Box 2760 Bhm
Telephone: 073°535°5796

120: APPLICATION ADDITIONAL DWELLING
Notice is hereby given that **Samuel Nhlapo** intends to apply to the Dihlabeng Local Council for special permission to erect an additional dwelling on Erf number **3988,** complete street address: **9 Faan Hough Street, Panorama** situated in Bethlehem (town).
Any person opposed to the proposed operation must lodge such complaint to the Applicant and the Municipal Manager within 14 days to the last publication of this notice.
The Applicant: S Nhlapo
Address: Street address: 9 Faan Hough Street, Panorama, Bethlehem 9701
Postal address: Same as above
Telephone: 079°116°3728

120: APPLICATION FOR ADDITIONAL DWELLING
Notice is hereby given that **Shane Ritchie** intends to apply to the Dihlabeng Local Council for special permission to erect an additional dwelling on Erf number **R/1102,** complete street address: **10 Sonop** Street situated in Bethlehem (town).
Any person opposed to proposed operation must lodge such complaint to the Applicant and the Municipal Manager within 14 days to the last publication of this notice.
The Applicant: S Ritchie
Address: 10 Sonop Street, Bethlehem 9700
Postal address: PO Box 1149, Bethlehem 9700
Telephone: 058°303°3030

120: CONSENT FOR A GUESTHOUSE
Notice is hereby given that **Nelus Loots** intends to apply to the Dihlabeng Local Council for special consent to conduct a guesthouse named **Die Uitkyk** on Erf number **903,** complete street address 40 Muller Street East, situated in Bethlehem (town).
Any person opposed to the proposed operation must lodge such complaint to the Applicant and the Municipal Manager within 14 days to the last publication of this notice
The Applicant:
Street address: 4 Van Riebecke Street, Bethlehem 9700
Tel. 082°802°1009/ 058°303°6442

120: CONSENT FOR A HOME BUSINESS
Notice is hereby given that **Johannes Jacobus van Wyk** intends to apply to the Dihlabeng Local Council for special consent to conduct a Home Business Country affère B&B / Showroom on Erf number **205,** complete street address **6 Burger Street** situated in Bethlehem (town).
Any person opposed to the proposed operation must lodge such complaint to the applicant and the Municipal Manager within 14 days to the last publication of this notice.
The Applicant
Address: Street Address: 6 Burger Street, Bethlehem 9700
Postal address: PO Box 1659 Bethlehem 9700
Telephone: 082°553°6485

120: TOESTEMMING VIR 'N GASTEHUIS
Kennis geskied hiermee dat **Nelus Loots** aansoek by die Dihlabeng Plaaslike Munisipaliteit gaan doen vir spesiale toestemming om 'n gastehuis genaamd **Die Uitkyk** op Erf nommer **903,** volledige straatadres: Mullerstraat-Oos 40, geleë in Bethlehem (dorp), te bedryf.
Enige persoon wat beswaar teen die voorgestelde bedryf het, moet sodanige beswaar by die Applikant en die Munisipale bestuur indien binne 14 dae na die laaste verskyning van hierdie kennisgewing.
Die Applikant: Nelus Loots
Adres: Van Riebeckstraat 4, Bethlehem 9700
Tel. 082°281°1009 /058°303°6442

120: TOESTEMMING VIR 'N TUISBEDRYF
Kennis geskied hiermee dat **Johannes Jacobus van Wyk** aansoek by die Dihlabeng Plaaslike Munisipaliteit gaan doen vir spesiale toestemming om 'n tuisbedryf vir Country Affère B&B /Showroom op Erfnommer **205,** volledige straatadres: Burgerstraat 6, geleë te Bethlehem (dorp) te bedryf.
Enige persoon wat beswaar teen die voorgestelde bedryf het, moet sodanige beswaar by die Applikant en die Munisipale Bestuurder indien binne 14 dae na die laaste verskyning van hierdie kennisgewing.
Die Aplikant: J J V/Wyk
Adres: Straat: Burgerstraat 6, Bethlehem 9700
Posadres: Posbus 1659 Bethlehem 9700
Telefoon: 082°553°6485

120:NOTICE OF BASIC ASSESMENT PROCESS 5 October 2011 DEA Ref No: 12/12/20/2423
Notice is hereby given in terms of the National Enviromental Management Act (No. 107 of 1998) and Regulation 54 of the Government Notice No. 543 of 18 June 2010, that an application has been lodged with the Department of Environmental Affairs (DEA) by Aurecon for authorising , after considering the Basic Assesment report for the development of a Photovoltaic Power Plant on the Farm Merino 1487, Portion 2, in the Free State Province for EAB-Astrum Energy (Pty)Ltd. The project entails the construction of a Photovoltaic Power Plant which covers an area of 10,3 hectares that will utilise approximately 27 000 solar modules to convert solar energy into electrical energy, with an estimated output of approximately 6. This will be fed into existing 22kV transmission lines that service the Merino Hydro Power Plant. The power generated will be sold to ESKOM and the Dihlabeng Municipality.
In order to ensure that you are indentified as an interested and/or affected party, please submit your name, contact information and interest in the matter to Natanya Whitehorn at the contact details provided below within 30 days of the advertisement.
Tel. 012°427°2000
Fax: 012°427°2010
E-mail: natanya.whitehorn@aurecongroup.com

Postal address: P O Box 74381
Lynnwood Ridge
0040

122 Boedels

We make a difference
Ons maak 'n verskil
BM
Breytenbach Mavuso Inc.
member of the phalshaane henney group of associated firms

122: BOEDEL WYLE MALEFUMA FRANSCINA MASHININI BOEDELNOMER: 11323/2007
In die boedel wyle MALEFUMA FRANSCINA MASHININI, identiteitsnommer 610804°0635°083, in lewe woonagtig by 3888 GIYANE LOCATION, BOHLOKONG, oorlede op 27 JULIE 2007
BOEDELNOMMER: 11323/2007.
Ingevolge Artikel 35 (5) van die Boedelwet word hiermee kennis gegee dat die EERSTE EN FINALE LIKWIDASIE- EN DISTRIBUSIEREKENING vir 21 dae vanaf 7 Oktober 2011, datum van publikasie hiervan, by die Meester van die Hooggeregshof, BLOEMFONTEIN en die Landdros, BETHLEHEM, ter insae lê. Indien geen besware binne daardie tydperk ontvang word nie, sal die Eksekuteurs tot uitbetaling daarvolgens oorgaan.
MICHAL WENTZEL MULLER
BREYTENBACH MAVUSO INC
Eksekuteur
H/V Naude- en Unionstraat, BETHLEHEM 9700
(VERWYSING: M MULLER/MAS295/0001CA)

We make a difference
Ons maak 'n verskil
BM
Breytenbach Mavuso inc.
member of the phalshaane henney group of associated firms

122: BOEDEL WYLE NOSI PIET SENOOE BOEDELNOMMER: 3373/2011
In die boedel wyle NOSI PIET SENOOE, identiteitsnommer 520729°5701°08°6, in lewe woonagtig by ERF 16, SENEKAL, VRYSTAAT PROVINSIE, wat oorlede is op 25 DESEMBER 2010,
BOEDELNOMMER: 3373/2011
Ingevolge Artikel (5) van die Boedelwet word hiermee kennis gegee dat die eerste en finale likwidasie- distribusierekening vir 21 dae vanaf 7 OKTOBER 2011 van publikasie hiervan, by die Meester van die Hooggeregshof, BLOEMFONTEIN en die Landdros, SENEKAL, ter insae lê en dat, indien geen besware binne daardie tydperk ontvang word nie, die Eksekuteurs tot uitbetaling daarvolgens sal oorgaan.
MICHAL WENTZEL MULLER
BREYTEBACH MAVUSO ING
Prokureurs vir Eksekuteur
H/v Naude- en Unionstraat BETHLEHEM
9700

122: HARRINGTONS ING
BOEDEL WYLE
TSELANYANE JONAS MOKOENA
BOEDELNOMMER: 4627/2011.
In die boedel van wyle TSELANYANE JONAS MOKOENA, identiteitsnommer 600311°5647°081, in lewe `n GETROUDE persoon, getroud binne gemeenskap van goedere met HANI ELLEN MOKOENA, ID 660530°0010°089, woonagtig by Populierstraat 181, Bakenpark, Bethlehem, 9700 en oorlede op 28 Februarie 2011, boedelnommer 4627/2011. Kennis geskied hiermee ingevolge Artikel 35 (5) van Boedelwet 66 van 1965, soos gewysig, dat die eerste en finale likwidasie- en distribusierekening by die kantore van die Meester van die Hooggeregshof, Bloemfontein en die Landdroskantoor, Bethlehem, gedurende 'n tydperk van 21 dae vanaf datum van publikasie, ter insae lê vir alle persone wat daarby belang het.
Indien binne genoemde tydperk geen besware daarteen by die betrokke Meester of Landdroskantore ingedien word nie, sal die eksekuteur oorgaan tot uitbetaling ingevolge die gemelde rekening.
GETEKEN OP BETHLEHEM OP 29 SEPTEMBER 2011
CC HARRINGTON
LINDLEYSTRAAT 29
POSBUS 255
BETHLEHEM
TEL. 058°303°5438
FAKS 058°303°1115
VERWYSING : JM DE VRIES/MOK506/0001

122: HARRINGTON'S Ing
BOEDEL WYLE CHRISTINA ELIZABETH SINCLAIR
BOEDELNOMMER 8752/11
KENNISGEWING AAN KREDITEURE EN DEBITEURE
In die boedel van wyle CHRISTINA ELIZABETH SINCLAIR, 'n weduwee, met IDENTITEITSNOMMER 280908°0067°085, boedelnommer 8752/11, wat woonagtig was in BETHLEHEM AFTREEOORD 35, BETHLEHEM 9700 en wat op 4 JULIE 2011 oorlede is.
Enigeen wat 'n eis het teen of bedrae verskuldig is aan die bogenoemde boedel, word hiermee versoek om sodanige eise in te dien of verskuldigde bedrae te betaal by die ondergemelde adres binne 30 (dertig) dae na publikasie hiervan.
GETEKEN OP BETHLEHEM OP HEDE DIE 29ste DAG VAN SEPTEMBER 2011.
HARRINGTONS INGELYF
LINDLEYSTRAAT 29
POSBUS 255
BETHLEHEM 9700
TEL. 058°303°5438
FAKS: 058°303°1115
VERW: JM DE VRIES/MEY14/0001

Waar diens tel ..
Where service matters.

122: INSAKE BOEDEL WYLE ANDRAS FINDT
BOEDELKENNISGEWING
Ingevolge Artikel 35 (5) van Wet 66 van 1965 word hiermee kennis gegee dat die eerste en finale likwidasie- en distribusierekening van boedel wyle Andras Findt, geboortedatum: 25 Junie 1937, getroud buite gemeenskap van goedere sonder aanwas met Theodora Grada Maria Findt, ID: 410514°0025°084, boedelnommer: 14135/2010, datum van afsterwe: 28 Oktober 2010, laaste adres: Utopia, BETHLEHEM ter insae lê by die Meester van die Hooggereghof te BLOEMFONTEIN en die Landdros te BETHLEHEM vir 'n tydperk van een-en-twintig (21) dae vanaf 7 Oktober 2011.
Marias & Crowther
Geoktrooieerde Rekenmeesters (S.A.) Ing.
President Boshoffstraat 32
Posbus 221
BETHLEHEM
9700
Tel. 058 303°5696
Faks 058 303°3023

130 Geregtelike verkopings (vaste eiendom)

130: VEILING /AUCTION
In die LANDDROSHOF vir die distrik BETHLEHEM, GEHOU op BETHLEHEM
Saaknommer:1609/2011.
In die saak tussen
TANKISO LIKHELE
Eksekusieskuldeiser
en
BAKHOELE PROPERTY DEVELOPERS TRANSPORT & SUPPLIERS CC
Eksekusieskuldenaar
KENNISGEWING VAN GEREGTELIKE VERKOPING (VEILING / AUCTION)
1. GELIEWE KENNIS TE NEEM DAT ingevolge `n Vonnis gelewer op 22/9/2011 in die LANDDROSHOF vir die distrik BETHLEHEM en `n lasbrief van eksekusie daarna uitgereik, word die goedere hieronder beskryf deur die Balju in eksekusie verkoop. Die besonderhede van die veiling is as volg:
DATUM :21 OKTOBER 2011
TYD: 10:00
PLEK: BALJUKANTOOR, VAN DER MERWESTRAAT 6, BETHLEHEM 9700.
2. In terme van Regulasie 20 (3) van die Wet op Verbruikersbeskerming, 68 van 2008, is die volledige advertensie en beskrywing van goedere by die kantore van die onderstaande Prokureurs en Balju gedurende kantoortye beskikbaar.
3. Hierdie kennisgewing word, onder andere, in terme van Regulasie 20 (2) (b) van die Wet op Verbruikersbeskerming, 68 van 2008, gepubliseer en toegang tot voormelde Regulasie kan verkry word op URL http://www.info.gov.za/view/DownloadFileAction?id=99961
4. Voornemende kopers moet voor die veiling as bieërs registreer
5. Naam van die Aflaer: GERRIE VISSER
072°345°0405
MEV SH ROBERTSON: 058°303°4715
6. Wyse van betaling : kontant, bankgewaarborgde tjek of elektroniese inbetaling, onderhewig aan aanvaarbare bewys van betaling
BESKRYWING VAN GOEDERE:
2-TON- WIT HYUNDAI H100-BAKKIE
REG NR ND 497-332
VIN AAPV011022035000
ENGIN D4BBW602466
VEH REG: CZG480W
GEDATEER op BETHLEHEM op 26/9/2011
Prokureur vir Eksekusieskuldeiser
HARRINGTONS
LINDLEYSTRAAT 29
BETHLEHEM 9700
Tel. 058°303°5438
Verw: MOF 394/0001
BALJU BETHLEHEM
G VISSER

VEILINGS

Veilingspunt GPS koördinate: S27°52.716' E28°26.902'

REITZ 199 FRIESE

In opdrag van **J & A OOSTHUIZEN BK & GASVERKOPER** word die volgende te koop aangebied op
DONDERDAG, 13 OKTOBER 2011 om **11:00** te
OOSTHUISHOEK, REITZ.

STAAK MELKBOERDERY

38 KOEIE *(<100 dae in melk).*
15 KOEIE *(100 - 200 dae in melk).*
66 KOEIE *(200 - 300 dae in melk).*
15 KOEIE *(swaar dragtig).*
10 KOEIE *(moontlik droog & sommige dragtig).*
10 VERSE *(dragtig).*
20 VERSE *(oop).*
25 VERSKALWERS.

MELKERY & KI TOERUSTING REEDS VERKOOP!

Nota: Uitstekende KI-bulle gebruik om kudde op te teel. Kudde is TB& BM vry - verwys Dr. Murray, Reitz. Dragtigheidstatus & katalogusse sal dag met veiling beskikbaar wees.

ROETE: **VANAF REITZ:** Ry suid met Zuiderstraat uit dorp uit in die rigting van Kransfontein vir 10 km. Draai regs by plaas in. **VAN BETHLEHEM:** Ry op die Reitzpad *(R26)* vir 41 km. Draai regs op pad S1157 en ry vir 7 km. Draai links op die Reitz grondpad *(S60)* en ry vir 4,5 km. Draai links by plaas in.

VERKOOPSVOORWAARDES: *1.* Slegs KONTANT of BANKGEWAARBORGDE TJEKS dag met veiling. *2.* BTW word gehef. *3.* Indien 'n item gekoop sou word d.m.v. 'n Landbank lening of huurkoop gefinansier sou word, moet dit minstens 14 dae vooraf met BKBLouwid kantoor te Frankfort gereël word. *4.* Kopers moet afskrifte van hul BTW-sertifikate beskikbaar hê. *5.* Internet oorbetalingsfasiliteite is vir u gerief beskikbaar. *6.* 'n Een persent kontanthanteringsfooi plus BTW word gehef op alle kontantbetalings. *7.* Volle voorwaardes is beskikbaar.

AFSLAERS
Posbus 220, Frankfort 9830
Tel. 058 813 1071 Faks. 058 813 2317
E-pos. frankfort@bkblouwid.co.za
Webblad. www.bkb.co.za
Reg. No. 2005/026173/07

NAVRAE:
Sakkie van Rensburg 082 562 0937
Afslaer: Bennie van der Merwe 082 414 4228
BKBLouwid. BETHLEHEM. 058 303 8552

BKB LOUWID

MARQUARD

Veilingspunt GPS koördinate: S28°40. 224' E27°28. 671'

800 KOMMERSIËLE LETELLE MERK OOIE

UITMUNTENDE KWALITEIT

1200 SUSSEX X & AFRIKANER X BEESTE

EKLAND AGRI VEILING, WOENSDAG, 19 OKTOBER 2011 om 11:00 te ALETTA, MARQUARD

➡600 DRAGTIGE OOIE *(4 - 6 tand).*
➡200 OOIE *(gereed vir ram; 2 tand).*

Alle skape is geënt met Covexin, Multivax P Plus asook spesifiek vir bloutong en slenkdalkoors. Dragtigheid sal op die dag van die veiling beskikbaar wees.

Mikrons *(2010 seisoen)*
Skeersel gemiddeld - 18.8
Ooie *(2 tand)* - 18.1
Lammerwol - 18.1
Ooie - 19.3

BM en TB negatief getoets - verwys Dr. Jan Blignaut te Senekal. Beeste geënt teen sponssiekte, miltsiekte en slenkdalkoors. Dragtigheidstatus sal beskikbaar wees dag van veiling.

➡150 KOEIE met 150 KALWERS *(3 in 1).*
➡ 50 KOEIE met 50 KALWERS.
➡330 KOEIE *(dragtig - swaardragtig).*
➡ 70 SUIWER AFRIKANER KOEIE *(dragtig - swaardragtig).*
➡250 VERSE *(dragtig - swaardragtig).*
➡150 VERSE *(gereed vir bul).*

ROETE: **VANAF MARQUARD:** Ry Oos uit met Elizabeth straat verby graansilo's en stasie met die S379 vir 5 km. Draai links by plaas in.

VERKOOPSVOORWAARDES: *1.* Slegs KONTANT of BANKGEWAARBORGDE TJEKS dag met veiling. *2.* BTW word gehef. *3.* Indien 'n item gekoop sou word d.m.v. 'n Landbank lening of huurkoop gefinansier sou word, moet dit minstens 14 dae vooraf met BKBLouwid kantoor te Frankfort gereël word. *4.* Kopers moet afskrifte van hul BTW-sertifikate beskikbaar hê. *5.* Internet oorbetalingsfasiliteite is vir u gerief beskikbaar. *6.* 'n Een persent kontanthanteringsfooi plus BTW word gehef op alle kontantbetalings. *7.* Volle voorwaardes is beskikbaar.

AFSLAERS
Posbus 220, Frankfort 9830
Tel. 058 813 1071 Faks. 058 813 2317
E-pos. frankfort@bkblouwid.co.za
Webblad. www.bkb.co.za
Reg. No. 2005/026173/07

NAVRAE:
Douw van Wyk 083 458 7353
Afslaer: Jan Mostert 083 306 8408
BKBLouwid. BETHLEHEM. 058 303 8552

EIENAAR:
Danie Nieuwoudt 083 302 1796

BKB LOUWID

PHOLLA PARK: 2-slk- eenheid in Phollapark met 1 badk, kombuis, woonk. R169 000. Mangaung! **Ilse 083 262 3928 NRE**

UITSIG: R685 000. Ruim 3-slk, groot sitkamer en aparte TV-kamer. Kom kyk gou! **Elize 072 386 2680 Rawson.**

WOODLANDS: Nuwe 4-slk, 3 badk, 2 m/h. 350 vk m, aan groen area, geen hereregte. Privaat. R2,15 miljoen. **Skakel 084 038 2063**

100 Te koop: meenthuise

AFTREEOORD: Universitas. R580 000. 1 slk, badk, oopplankombuis, afdak vir motor. **Tel. Ina 082 202 4202.**

BATTS: LHP
3 slk, 2 badk , 2 m/huis. R650 000
BATTS: LHP
2 slk, 2 badk, 1 m/huis R675 000
FRANCINA 079 494 4107

FLEURDAL: 2-slk, vanaf R550 000. **Skakel 082 779 1345.**

LHP:
3 slk, 2 badk, 1 m/h. R760 000
WOODLANDS
3 slk, 2 badk, 2 m/h. Teen groen area. R1 350 000
Skakel Nellie Brink. 076 520 0934 Remax

LHP: R700 000. Netjiese 2-slk met 2 m/h. Lapa met ingeboude braai. **Elize 072 386 2680 Rawson.**

Nuwe ONTWIKKELING: Koop direk by ontwikkelaar. Uitstekende belegging vanaf R579 000. Luukse afwerking. Eie erf. Dubbelafdak. Uitstekende belegging met fantasiese huurinkomste. **Skakel Cornelia by 083 259 4028.**

Nuwe ONTWIKKELING: Koop direk by ontwikkelaar. Uitstekende belegging vanaf R579 000. Luukse afwerking. Eie erf. Dubbelafdak. Uitstekende belegging met fantasiese huurinkomste. **Skakel Cornelia by 083 259 4028.**

PANORAMAPARK IN Noordhoek. R450 000. 2 slaapkamers, 1 motorhuis. **Skakel 083 303 0196**

WILGEHOF: R467 390. R12 000 terug! Ruim 2 slk, toesluitm/h, balkon, rustige omgewing. Kompleks word opgegradeer! **Erik 082 780 9900 Empire Prop**

101 Te koop: plase

432 HA. 30 km van Bfn. Naby teerpad. Groot huis. 155 ha lande. Prys: R3,4 m ohb. **Navrae 082 852 1773.**

103 Te koop: woonstelle

KLEIN WOONSTEL- blokkie te koop, goeie belegging. 1 slaapkamer, kombuis, kontrakte. Skakel 082 783 4341

EK SOEK werk: Skoonmaak, hospitale, restaurante, hotelle of huiswerk.**Skakel 081 392 7400.**

EK VRA 5 dae in- of uitslaaphuiswerk, kan alles doen. **Skakel 078 690 3926**

EK VRA huiswerk vir 3 tot 5 dae, kan alles doen. **Skakel 076 029 6116.**

EK VRA inslaapwerk vir 5 dae. Kan kinders oppas en is 'n harde werker. **Skakel 073 531 8845.**

EK VRA vir Dinsdag en Donderdag huiswerk. Kan alles doen. **Skakel 078 978 6210**

I NEED A JOB: DOMESTIC WORK. I'm a hard worker. **079 324 9273/ 078 624 1908.**

I NEED DOMESTIC work for 5 days, sleep in or out. I have references, hard worker. **Phone 071 330 4225.**

111 Betrekkings aangebied

1 BOILERMAKER
1 MILLWRIGHT
***Matric**
***Management ability**
***Red Seal as a boilermaker or millwright**
***Experience in fitting and turning**
***5+ years' experience in factory maintenance**
***Experience in maintaining machines, moulds, plants mechanically, hydraulically, pneumatically.**
***Able to work shifts**
***Mechanical knowledge**
***Electrical knowledge**
***Pension fund and medical**
hr@cembrick.co.za 086 502 2257.

ACC PRIVATE SCHOOL
*VACANCY TEACHER
Gr 10 - 12
Maths Lit
Life Science
Fax short CV to 086 657 5041.

AKTETIKSTERSPOS beskikbaar by Naudes Prokureurs. **Vereistes:** Minimum 2 - 3 jaar ervaring in transporte. Ervaring in boedeltransporte voordelig. Moet onmiddellik diens aanvaar. Markverwante salaris. **Stuur CV na bea@naudes.co.za of faks na 086 541 3862**

'CASUAL'/tydelike werkers met klere en skoenverkoopsondervinding benodig vir naweke. Goed Afrikaanssprekend. Markgerigte vergoeding. **Handig verkorte CV persoonlik in by Trappers Mimosa Mall voor Vrydag 7 Okt.**

CHARTERED ACCOUNTANT: Free State area Mining Company wants a CA, 1 or

DRINGEND OP SOEK na kroegpersoneel. Hardwerkend, eerlik en betroubaar. **Skakel Ollie 082 771 0889.**

EXCEPTIONAL OPPORTUNITIES FOR SALES CONSULTANTS
Minimum requirements:
*Grade 12,
*Security sales experience would be advantageous,
*Fluency in Afrikaans and English and
*Presentable
Fax your CV to 086 686 0792

FMCG COMPANY looking for a Depot Admin Controller at its Kuruman operation. Minimum requirements to apply:
*Relevant experience in a similar work enviroment.
*Grade-12 certificate (relevant tertiary degree/diploma would be advantageous) and the applicant must be computer literate.
*Market-related salary.
Applications can be faxed to 086 532 9768

GASTEHUIS SOEK na 'n betroubare en eerlike huiswerker/kok wat kan inslaap. Moet verwysings hê van vorige werkgewers. Goeie basiese salaris en oortyd. ☎ **082 413 3883.**

GEKWALIFISEERDE LOODGIETER met ten minste 15 jaar ondervinding vir 'n permanente pos in De Aar gesoek. Skakel Johan Rall by 071 483 9568 of 053 631 1534. rall@deaarelectric.co.za

GIRL FRIDAY: General office work, with a bit of typing, flexi time, hours to discuss, R100 to R150 per hour. **Contact 082 8726 501/ 051 421 3206**

HI-FI CORPORATION BLOEMFONTEIN has the following vacancies available:
VARIOUS SALES CONSULTANTS: must have
Min Grade 12
* 7 12 months' sales experience
* Exc comm and written skills
* Service-orientated with self-motivation, drive and a positive attitude
* Must have a proven sales track record
CUSTOMER CARE CONSULTANT: must have:
* Min Grade 12
* A+ Certificate a must
* Customer service exp a must
* Excellent comm skills
GENERAL ASSISTANT: must have:
* Min Grade 12
* Excellent comm. skills, customer service exp an adv.
Apply: www.hificorporation.co.za on our careers page or e-mail normam@jdg.co.za REF:BLOEM

LOOKING FOR candidates to go out and get customers in the field of policies. Commission based. Only if you are a go getter. **Phone me 072 802 2337**

LUGREËLING-tegnikus benodig. Ondervinding nie verpligtend. **Faks CV na 086 270 2273 Sel 082 782 7433**

NEEDED 30 PEOPLE for marketing. Earn big commission per customer. **Contact 072 082 5992**

POS BESKIKBAAR BY GASTEHUIS: Kroegdame. Onafhanklike persoon tussen 18 en 30. Pakket sluit inwoning en etes in. Skakel 072 330 3109. Bethlehem.

Du Plessis Personnel

Regional Manager Senior position. Sales and target driven. Managing regions operations. Package ± R550 000. National Co. **ONTVANGSDAME** 2 j. ervaring. ± R6 000 + byvoordele. **Tel. 051 447 5443 Faks 051 447 5447** griet@dp-partners.co.za duplessisandpartners.co.za

SKOF BESTUURDER dringend benodig by bekende Vulstasie. Salaris vanaf R5 500p.m. **Faks CV na 051 409 5055**

VERKOOPSMAN met ondervinding. Salaris onderhandelbaar. **Skakel 081 385 3972**

SOEK Ontvangsdame tussen die ouderdom van 25 en 31. Salaris R4 000. Moet so gou moontlik pos aanvaar. **CIS H/A CENTRAL SECURITY Zastronstraat 79 051 448 2299**

VAKATURE BE-STAAN vir 'n **Smash 'n Grab 'tinter'.** Moet gekwalifiseerd wees of opleiding kan verskaf word. Onmiddellik kan begin. Geldige rybewys 'n vereiste. **Skakel vir onderhoud 082 413 2137.**

Verkoopsdame wat onmiddellik diens kan aanvaar benodig by Curtain CO, Fichardtpark, Bloemfontein. Kennis / ondervinding van roksmateriaal/wol /naaimasjiene vereiste. **Handig CV peroonlik in by winkel. Tel: 051 522 2783**

VERKOOPSPERSOON benodig by selfoonwinkel. Vorige verkoops- ondervinding 'n aanbeveling. **Handig CV in by Chatz, Preller Walk, Bfn. Sluitingsdatum 7 Oktober.**

Webwerf- bemarkingsgeleentheid. Goeie inkomste en bonusse. Eie vervoer. **Faks CV na 086 601 9999**

WAREHOUSE SUPERVISOR
*Matric
*Pastel and MS Outlook, Word, Excel 2007
*Strong administration skills
*Attention to detail and accuracy
*Ability to work under pressure
*Excellent knowledge in DIY goods
*Receiving, dispatch and stock counting experience of min 5 years
Salary R6 000 to R8 000
Benefits: Medical Aid and Pension Fund
E-mail: hr@cembrick.co.za Fax: 086 502 2257

WHOLESALE STATIONER looking for experienced:
1) Male driver/ Warehouse assistant /Code 08 with immediate effect.
2) Male assistant warehouse manager with immediate effect.
Requirements:
Honest, reliable and in good emotional and physical health, team player and be able to work under pressure.
Both posts require driver's lisence, Grade 12 and computer experience in Pastel (age between 25 and 40).
Must be good in reading and writing and have good managerial, administrative and interpersonal people skills, and be organised and familiar with stationery products.
Must be presentable and able to get to work and have recent references that can be contacted.
Please fax CV to 051 448 1685 or e-mail to marieb@paco.co.za

NOTICE OF BASIC ASSESSMENT PROCESS
5 October 2011
DEA Ref No: 12/12/20/2423

Notice is hereby given in terms of the National Environmental Management Act (No. 107 of 1998) and Regulation 54 of the Goverment Notice No. 543 of 18 June 2010, that an application has been lodged with the Department of Environmental Affairs (DEA) by Aurecon for authorising, after considering the Basic Assessment report for the development of a Photovoltaic Power Plant on the Farm Meri-no 1487 Portion 2 in the Free State Province for

EAB-Astrum Energy(Pty) Ltd. The project entails the construction of a Photovoltaic Power Plant which covers an area of 10,3 hectares, that will utilise approximately 27 000 solar modules to convert solar energy into electrical energy, with an estimated output of approximately 6. This output will be fed into the existing 22kV transmission lines that

service the Merino Hydro Power Plant. The power generated will be sold to ESKOM and the Dihlabeng Municipality. In order to ensure that you are identified as an

interested and/or affected party, please submit your name, contact information and - interest in the matter to Natanya Whitehorn at the contact details provided below within 30 days of the advertisment. Tel. 012 427 2000 Fax 012 427 2010 E-mail: natanya.whitehorn@aur econgroup.com Postal address: PO Box 74381 Lynnwood Ridge 0040

Amptelike Kennisgewings

120 Amptelike kennisgewings

120

WESPARK PALMS KROONSTAD CHEROKEE TRADING POST 23 (EDMS) BPK
Ons versoek die beleggers, skuldeisers en aandeelhouers in bogemelde maatskappy om hulle name, adresse en kontakbesonderhede aan ons te verstrek. Ons wil graag met die beleggers, skuldeisers en aandeelhouers kontak maak ten einde 'n vergadering te reël waartydens die vorming van 'n skuldeiserskommitee oorweeg en bespreek kan word.
SPANGENBERG ZIETSMAN & BLOEM PROKUREURS
Andries Spangenberg
Tel: 051 - 409 5001
Faks: 051 - 409 5050
E-pos: spannies@iafrica.com

48 Volwasse ontspanning en vermaak

CATWALK STRIP SHOWS NEW LADIES WEEKLY R50 ENTRY 082 965 5566

071 914 4234 Club Mona Lisa bachelor parties, lap dancers, 4 new girls, licenced bar, free venue.

☎072 437 8893. 1,8-m tall, long-legged, white, wild brunette to tease and please. PVT and travel.

073 134 6192 New. hot African lady from Namibia to be your hostess till Thurday. Mega busty to spoil you all the way 24/7.

074 416 9804. Cynthia - hot, sexy. Best masseuse in town. Movies and toys available, no rush.

076 703 1274 Kom geniet 'n STOMENDE, VUURWARM tyd. Geen voorwaardes! 'Movies and toys!'

078 912 8593 New, tall, sexy, mega busty African queen. Check me on www.esa.co.za *Brandy*

084 699 6472. Jong, hitsige, stout Kleurlingmeisie. Ferm lyfie. Kom kry waarna jy soek. Pvt

A HOT STRIPSHOW. SMS SHOW to 42133 xxx R30.

A STRIP SHOW on your phone. Sms GO to 42654! www.lonelygirls.co.za

BLOEMFONTEIN: Verfynd, hoë klas, volwasse. Professionele massage plus ekstra. Erna **073 915 2637.**

CHINESE MASSAGE. Best service! 24/7 076 700 5777

GAY COCKTAIL BAR AND EXECUTIVE LOUNGE: Upmarket bar and lounge open daily 21:00 till late. Dress: Smart Casual. **Contact 083 744 9696.**

HITSIGE HUISVROUENS sal u bel. SMS WILD **na** 36602, R5. **www.adultclub.co.za**

Hot live ph sex 24 hours 031 940 30 VAS RATES

NEW IN TOWN: Bust naughty 'Greek' godde please you in sexy ling **078 270 8979 Minky**

NEW, SLIM, SEXY Af angel in bed. www.sextrader.co.za (Tender). **078 286 9740**

PHONE SEX... LIV 24 hrs. 082 554 940 039 315 7595 www.sexchatline.co

PLAYGIRL www.saplaygirls.co JACUZZ BEERGARDE 079 675 986

WE ARE THE upmarket married couple looking for other high class couples to join us for same-room fantasy. Only SMS will be answered. **082 453 0210**

WELKOM: Call Chanell for upmarket, discreet fun and entertainment. Satisfaction guaranteed. Private parking. **084 363 2003.**

Vervolg op Bl. 10

PRETBLAD

breinknoop

1. Wie is die Suid-Afrikaanse rekordhouer vir die meeste drieë gedruk deur 'n Springbok?
2. Watter woonstelgeboue in Pretoria was onlangs in die kollig toe 14 500 onwettige inwoners uit hul woonstelle gesit is?
3. Watter kunstefees word tans in Potchefstroom gehou?
4. Watter musiekgroep, wat onder meer die liedjie *Everybody Hurts* bekend gemaak het, het onlangs aangekondig hulle breek op?
5. Wie is die minister van openbare ondernemings?

Antwoorde: 1. Bryan Habana; 2. Schubartpark; 3. Aardklop Nasionale Kunstefees; 4. REM; 5. Malusi Gigaba.

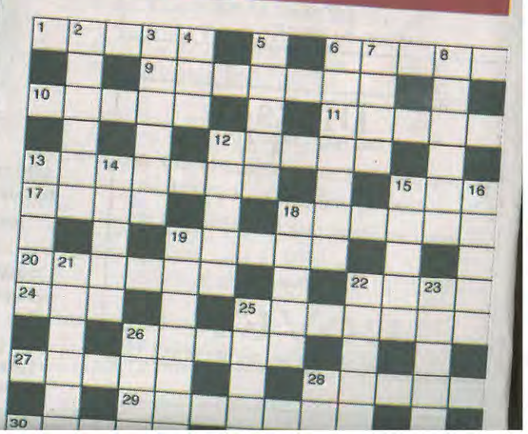
vandag wat was

Die nuusleser

GROEIPYNE

STOFFEL

crossword 11 052



tjie vaardig

t in Februarie 2011
y Petro Myburgh se

erdom was Hanré die
vat by RiNico Compu-
t.

Dit is 'n wêreld van animasie, klank en kleur! Elke week word aandag gegee aan persepsie, geheue, logika, syfervaardighede, sosiale vaardighede, kreatiwiteit, rekenaarvaardighede, taal- en ontwikkelingsvaardighede. Hanré se handvaardighede is uniek vir sy ouderdom, want hy kan al kliek, dubbelkliek en "drag & drop".

Sy persepsie van kleur- en vormwaarneming is uitsonderlik en hy bemeester al legkaarte bo sy ouderdomsvlak.

Hanré is 'n liefdevolle en dierbare seuntjie. Hy lewer uitstekende werk vir sy ouderdom en leef hom in alles wat hy doen! Hanré is die seun van Kobus en Corné Dreyer van Bethlehem.

saam met Zandra Posthumus (links agter) en

MR ISAAC SEKHOTO and Ms Lydia Salomane of the Maluti FET college in Bethlehem received a certificate after completing the Vocational Education Orientation Programme (VEOP).
Photo: Lynda Greyling

Students completed programme

TWO staff members of the Maluti Further Education and Training (FET) College campus in Bethlehem took part in the staff development programme in partnership with the University of the Free State's (UFS) Qwaqwa campus.

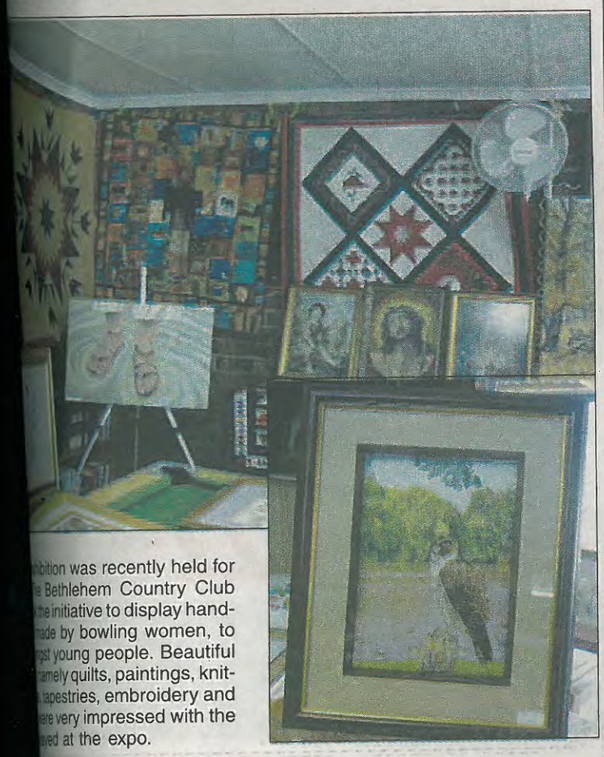
The Vocational Education Orientation Programme ran from March 2010 until March 2011. The purpose of the programme is to demonstrate the context of teaching in the FET college sector.

On 8 September, Mr Isaac Sekhoto and Ms Lydia Salomane were among 83 students who graduated.

The ceremony was held in the Nelson Mandela Hall on the Qwaqwa campus.

astic about subject

Maluti FET College, Bethlehem Campus, are so enthusiastic about their that they bought the same shirts at their own cost to promote the subject em to do their best. From the left are, front: Malau Lebohang and Slabbert thimkulu Silhembile, Matebello Tseki, Mocuu Zulu, Sitole Nozida, Puleng emba Dhlamini.



hibition was recently held for e Bethlehem Country Club the initiative to display hand- ade by bowling women, to ost young people. Beautiful amely quilts, paintings, knit- tapestries, embroidery and ere very impressed with the ved at the expo.

kalahari ads Suid-Afrika se gunsteling snuffelgids
www.kalahariads.com Tel. 058 303 5407 Faks: 058 303 2080

30 Allerlei te koop

ALMAL SE WINKEL. Goeie pryse gewaarborg vir gebruikte meubels. Johan 082 312 0855.

KAGGELS EN BRAAIERS
COLD BUSTERS
ROUXSTRAAT 11A
BETHLEHEM
058 303 4881

Te Koop 3 Selfone : Nokia 5130 R400 , Nokia E51 R400 , Nokia 6303 R700 . In goeie werkende toestand Skakel 082 470 5067

41 Spesiale dienste

GENIET DIE SOMER MET 'N PASSIE!
LIBRA POOLS & SPAS
Bethlehem
Tel. 058 303 9159

SANDSTONE: Blocks, bricks, cladding, rivens, tiles, etc.Tel. 058 303 4840. 12 Archbell Street, Bethlehem.

59 Akkommodasie en losies

KOVSIES
Private studente behuising beskikbaar geleë naby aan die Universiteit van die Vrystaat (Kovsies) met verskeie studente huise en woonstelle. Vir enige navra skakel Jacqui/ Anina by 051 4112600.

105 Te huur: eiendomme

KANTORE TE HUUR / OFFICES TO LET
Lindleystraat
(1ste vloer bo Nashua)
Lindley Street
(First Floor Nashua)
1. Kantoor/Office 100 m²
2. 3 kantore/offices 22 m²
Tel. 058 303 9907 (k/u)

Wat gaan JY na matriek doen?
Impala Kursusse aangebied:
Veldgids 1,2,3, Wildplaasbestuur
Jaggids / Boskos / Spoorsny
Baie werk in die bedryf beskikbaar!! Ons help met plasings van suksesville studente. FGASA-geakkrediteerd.
014 735 0361 / 083 256 0210

120 Amptelike kennisgewings

NOTICE OF BASIC ASSESSMENT PROCESS
5 October 2011
DEA Ref No: 12/12/20/2423
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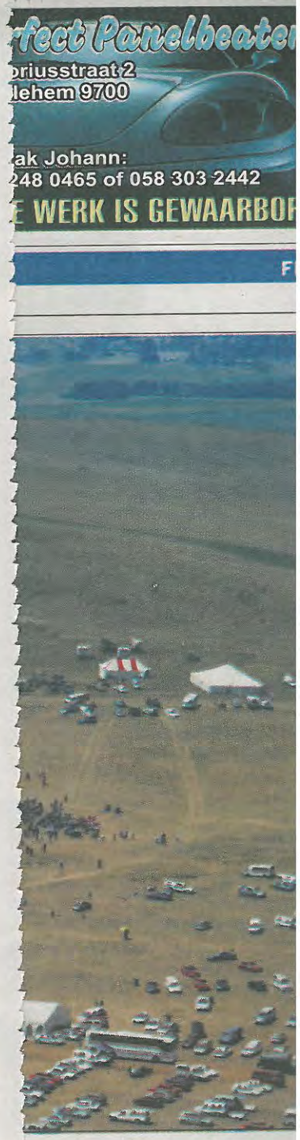
Tel. 012 427 2000
Fax 012 427 2010
Email:natanya.whitehorn@aurecongroup.com
Postal adress :
PO Box 74381
Lynnwood Ridge
0040

AANDAG ALLE ADVERTEERDERS
Die gebruik van die letter "A", leestekens soos "!" of "*" of die gebruik van syfers met die doel om die advertensie na die bopunt van die klassifikasie-lys te skuif, is streng verbode.
SMALLS NOTICE

SOEK, KOOP, VERKOOP



mibië heen het 'n saamtrek in

skoo

afgelaai van waar sy haar man het.

Nadat Pelser haar sake dagoggend afgehandel het, op haar pos by die Maluti-Hoo skool. Mnr. Piet Smith, skoo het Vrydagaand terwyl sy was hul dogter, Maretha, wat huis was, bygestaan.

Kapt. Chaka Marope, woordvoerder, sê die polisie soek die kaping. Teen druktyd niemand in verband met die in hegtenis geneem nie.

Appendix E7: Proof of Landowner Consent

Memorandum of Understanding

between:

Bethlehem Hydro (Pty) Ltd

Registration number: 2002/03973/07

("The Owner")

And

The Merino PV Project Development Consortium

comprising

Astrum Energy (Pty) Ltd

Registration number: 2009/014380/07

And

NuPlanet Project Development (Pty) Ltd

Registration number: 2006/035837/07

("The Developers")

(hereinafter collectively referred to as Parties).

1 INTRODUCTION

1.1 Bethlehem Hydro (Pty) Ltd ("the Owner") owns a 12ha piece of land in the Bethlehem District, Free State Province, on which the Merino Hydro power plant is currently located. A portion of this land will, in terms of this Memorandum of Understanding ("MoU"), be made available to the Developers for the purposes set out herein. A description of the relevant potion of land is enclosed as ANNEX A hereto (hereinafter referred to as "the Property").

1.2 The Merino PV Project Development Consortium ("the MPVPDC") comprises Astrum Energy (Pty) Ltd ("Astrum Energy") and NuPlanet Project Development (Pty) Ltd ("NuPlanet") (collectively referred to as "the Developers").

1.3 Astrum Energy is a project developer for renewable energy projects specialising in utility scale wind and photovoltaic ("PV") power plants. Astrum Energy cooperates with a German company, EAB New Energy from time to time in developing power plants and will be doing so for purposes of the MPVPDC.

1.4 NuPlanet is a project developer, based in Pretoria South Africa.

1.5 The Developers have identified the potential for the development of a grid connected PV power plant with an estimated capacity of 3.8MW, on the Property ("the PV Power Plant"), subject to a feasibility study being performed by the Developers at the Property. The Parties wish to record their understanding in regard to the implementation and completion of the feasibility study and the potential development of the PV Power Plant.

2 PURPOSE OF THE MEMORANDUM OF UNDERSTANDING

2.1 The purpose of this MoU is to:

2.1.1 Specify the conditions under which the Owner grants the Developers the exclusive right to proceed with conducting a feasibility study for the development of the PV Power Plant on the Property.

2.1.2 Record that the Owner shall enter into a long term lease agreement relating to the Property ("the Long Term Lease Agreement") to the Developers or their assignees should the Developers decide to implement the development of the PV Power Plant after conclusion of the feasibility study.

2.2 This MoU therefore constitutes a statement of the mutual intentions of the Parties with respect to its contents and each Party represents to the others that:

2.2.1 reliance shall be placed on it;

2.2.2 it *does* constitute an obligation binding on all Parties;

2.2.3 it does not contain all matters upon which agreement must be reached in order for the Long Term Lease Agreement to be consummated; and

2.2.4 for the avoidance of doubt and without limiting the above in any way, this MoU imposes a commitment on all Parties to negotiate in good faith in order to proceed with signing of the Long Term Lease Agreement upon the terms and obligations imposed in terms of this MoU.

3 THE OWNER'S RIGHTS AND OBLIGATIONS

3.1 The Owner herewith grants to the Developers the exclusive right to conduct a feasibility study and to develop the PV Power Plant on the Property. The right is granted free of any cost, consideration or charge, but subject to the terms set out herein.

3.2 The Owner shall, upon finalisation of the feasibility study by the Developers and at the request of the Developers conclude the Long Term Lease Agreement with the Developers and/or their assignees, if the Developers elect to continue with the development of the PV Power Plant, which is the subject of the feasibility study, on the Property.

3.3 The Owner shall not be responsible or liable for any costs incurred by the Developers during the conduct of the feasibility study.

3.4 The Developers' activities at the Property may not:

3.4.1 create any risk of or actual disruption or suspension of the business or operational activities of the Owner;

3.4.2 cause any damage whatsoever to the Owner's assets or business operations in general;

3.4.3 result in any loss of income by the Owner;

3.4.4 result in any reputational loss of the Owner; and/or

3.4.5 give rise to any default or breach by the Owner in terms of any of its agreements, contracts or licenses.

3.5 The Long Term Lease Agreement between the Parties will contain the following or similar terms and conditions:

3.5.1 The lease price paid by the Project to the Owner will be 1.5% of the turnover (electricity and carbon credit sales) of the PV Power Plant, calculated and paid for on a monthly basis.

3.5.2 The Owner will lease the Property to the Developers or their assignees for the purposes of the development and operation of the PV Power Plant, subject to any applicable legislation, including acts, regulations, zoning restrictions, bylaws etc. The Owner shall assist the Developers and co-operate to obtain to any approvals or licenses which may be required to develop and operate the PV Power Plant in terms of any such legislation.

3.5.3 The Owner will obtain any necessary approvals and consent to enter into the Long Term Lease Agreement with the Developers or their assignees from parties such as its creditors which may have rights in terms of mortgage bonds over the Property.

3.5.4 The conclusion of the Long Term Lease Agreement will be subject to approval by the Owner's Board of Directors. Such approval will not be unreasonably withheld.

3.5.5 The construction and operation of the PV Power Plant will not expose the Owner to any risk of disruption, default, suspension, reputational loss or loss of income of the Owner, its assets, its operations or its agreements, contracts or licenses.

3.5.6 The Developers or their assignees will, for the duration of the Long Term Lease Agreement take out and maintain the necessary insurance cover, to the satisfaction of the Owner, to compensate the Owner for any claims (including any costs relating to such claims), losses or damages suffered as a result of the development or operation of the PV Power Plant or any of the activities of the Developers or its assignees or employees on the Property.

3.5.7 The Developers or their applicable assignees will contribute on a pro rata basis to the cost of the Eskom interconnection to the site. Such costs are at present for the Owner's account alone. The respective contributions to the interconnection costs will be agreed and calculated to the satisfaction of the Parties.

4 DEVELOPER'S RIGHTS AND OBLIGATIONS

4.1 The Developers accept that, in terms of clause 3.1 of this MoU, they are granted an exclusive right to conduct a feasibility study for purposes of developing the PV Power Plant on the Property.

4.2 The Owner will provide full access to and use of the Property as is required by the Developer or its assignees, employees or consultants for the purposes of conducting the feasibility study relating to the development of the PV Power Plant.

4.3 The Owner will provide such information that is in the Owner's possession and as is required for the feasibility study and the development of the PV Power Plant, free of charge to the Developer.

4.4 The decision to proceed with the development and operation of the PV Power Plant after the conclusion of the feasibility study and to enter into the .Long Term Lease Agreement, is at the discretion of the Developers alone.

5 NON-CIRCUMVENTION

5.1 The Parties hereby agree that they will not circumvent the other party by approaching, or entering into any agreement with, any person, entity, associate, business and/or company ("the Contact") introduced by one of the Parties in pursuance of the feasibility study relating to the development and operation of the PV Power Plant, unless it is agreed between the Parties in writing. Such agreement must be signed by a duly authorized representative of the Party who introduced the Contact in question.

5.2 This clause shall be in place for the duration of this MoU and for a period of twenty four (24) months from the termination date.

6 INDEMNITY

6.1 Neither Party shall incur any liability for the obligations of the other Party, unless it has agreed to do so in writing.

6.2 Each Party hereby indemnifies and holds harmless the other Parties against any claim of whatever nature made by a creditor or any third party against the other Party(ies) in terms of or arising from any conduct, liability or obligation incurred by the indemnifying Party.

7 CONFIDENTIALITY

7.1 The Parties may have access to or be furnished with certain confidential information of the other Parties. The Parties acknowledge that the other party may potentially suffer considerable economic prejudice, including, but not limited to, loss of custom, goodwill and future profits if confidential information is disseminated.

7.2 The Parties therefore agree that, notwithstanding the cancellation or termination of this MoU for any reason whatsoever, no Party ("**receiving party**") shall during the existence of this MoU or at any time after the termination date use, divulge, disclose, exploit, permit the use of or in any other manner whatsoever use the other party(ies) ("**disclosing party**") confidential information divulged to it in terms of this agreement or otherwise in connection with the conduct of the feasibility study relating to the development and operation of the PV Power Plant which will be performed in terms of the MoU, or disclose the existence or contents of this MoU; provided that -

7.2.1 the receiving party may disclose the other party's confidential information and the existence and contents of this agreement -

7.2.1.1 to the extent required by law (other than in terms of a contractual obligation of the receiving party);

7.2.1.2 to, and permit the use thereof by, its consultants or professional advisers to the extent strictly necessary for the purpose of implementing or enforcing this MoU or obtaining professional advice or conducting its business, it being specifically agreed that any disclosure or use by any such adviser of such confidential information for any other purpose shall constitute a breach of this 7 by the receiving party;

7.2.1.3 where the disclosing party has consented in writing to the disclosure of same; and

7.2.2 the provisions of this 7 shall cease to apply to any confidential information of a party which –

7.2.2.1 is or becomes generally available to the public other than as a result of a breach by the receiving party of its obligations in terms of this 7;

7.2.2.2 is also received by the receiving party from a third party who did not acquire such confidential information subject to any duty of confidentiality in favour of the other party; or

7.2.2.3 was known to the receiving party prior to receiving it from the other party.

7.3 **"Confidential information"** of a party shall mean any confidential, non-public and/or proprietary information, including intellectual property, and regardless of how the information is stored or delivered or exchanged between the Parties before, on or after the date of this MoU and which is in connection with the Parties' businesses, operations or the feasibility study relating to the development and operation of the PV Power Plant as referred to in this MoU.

8 SUPPORT

8.1 The Parties undertake at all times to do all such things, perform all such actions and take all such steps as may be open to them and necessary for or incidental to the putting into effect or maintenance of the terms, conditions and/or import of this MoU.

9 COMMENCEMENT AND DURATION

9.1 This MoU shall commence on the date of last signature of the MoU.

9.2 This MoU shall terminate after a period of 12 months from date of last signature, unless extended by mutual consent of the Parties or replaced by another agreement.

10 BREACH

10.1 If a Party ("Defaulting Party") commits any breach of this MoU and fails to remedy such breach within 10 (ten) Business Days of written notice requiring the breach to be remedied, then the Party giving the notice ("Aggrieved Party") will be entitled to the following options:

10.1.1 to claim immediate specific performance of any of the Defaulting Party's obligations under this MoU, with or without claiming damages, whether or not such obligation has fallen due for performance and to require the Defaulting Party to provide security to the satisfaction of the Aggrieved Party for the Defaulting Party's obligations; or

10.1.2 to cancel this MoU, with or without claiming damages, in which case written notice of the cancellation shall be given to the Defaulting Party, and the cancellation shall take effect on the giving of the notice.

10.2 The Aggrieved Party's remedies in terms of this clause are without prejudice to any other remedies to which the Aggrieved Party may be entitled in law.

11 DISPUTE RESOLUTION

11.1 Any dispute arising out of this MoU or the interpretation thereof, both while in force and after its termination, ("dispute") shall be submitted to the management of the Parties ("Management") who shall endeavour to resolve the dispute by negotiation.

11.2 This negotiation process shall entail one of the Parties inviting the other parties' Management in writing to meet and to attempt to resolve the dispute within 10 (ten) business days from date of written invitation.

11.3 If the dispute has not been resolved by such negotiation between Management within 10 (ten) business days of the commencement of negotiation thereof by agreement between the parties, then the parties shall :-

11.3.1 submit the dispute to mediation to be facilitated by a mediator agreed to between the disputing Parties. If the disputing Parties are unable to agree on the appointment of a mediator within a period of 14 (fourteen) business days after the mediation has been demanded, the dispute will be referred to a mediator appointed by the Arbitration Foundation of Southern Africa.

11.4 The objective of the mediation will be to seek a fair, equitable and legal resolution of the dispute.

11.5 The disputing Parties agree that:

11.5.1 the mediator will, after consultation with the disputing Parties, determine the procedure to be adopted in the mediation process;

11.5.2 the mediator cannot make a ruling or decision which binds the disputing Parties, nor may the mediator compel the disputing Parties to settle the dispute;

11.5.3 the costs of the mediator will be shared equally between the disputing Parties;

11.5.4 at the conclusion of the mediation process, the mediator will record the terms of any MoU or settlement reached by the disputing Parties or, if no MoU or settlement is reached despite all reasonable efforts by the disputing Parties, the mediator must record that fact (hereinafter referred as the "unsuccessful mediation");

11.6 In the event of an unsuccessful mediation the dispute shall be submitted and determined by arbitration in accordance with the rules of the Arbitration Foundation of Southern Africa ("Rules").

11.7 The decision of the Arbitrator or Arbitrators shall be final and binding on the parties and may be made an order of any Court of competent jurisdiction and there shall be no appeal thereof as provided for in the rules of the Arbitration Foundation of Southern Africa.

11.8 Unless otherwise agreed in writing by all the parties, any such negotiation, mediation or arbitration shall be held in Pretoria.

11.9 The provisions of this clause 11 :-

11.9.1 constitute an irrevocable consent by the parties to any proceedings in terms hereof and no party shall be entitled to withdraw therefrom or claim at any such proceedings that it is not bound by such provisions; and

11.9.2 are severable from the rest of this agreement and shall remain in effect despite the termination of or invalidity for any of this agreement.

12 NOTICES AND DOMICILIA

12.1 The Parties select as their respective domicilium citandi et executandi the following physical addresses, for the purposes of giving or sending any notice provided for or required under this MoU, the said physical addresses as well as the following email address:

12.2 The Developers:

12.2.1 Astrum Energy:

5 Walnut Road

Durban 4001, South Africa

florian.kroeber@astrumenergy.com

marked for the attention of: the Managing Director;

12.2.2 NuPlanet :

NuPlanet Building

53 De Havilland Crescent

Persequor Park 0020, South Africa

Email: al@nuplanet.co.za

marked for the attention of : the Managing Director;

12.3 The Owner:

NuPlanet Building

53 De Havilland Crescent

Persequor Park 0020, South Africa

Email: al@nuplanet.co.za

marked for the attention of: the Managing Director;

12.4 A Party will give written notice in case its domicilium and/or email address might change.

12.5 All notices to be given in terms of this MoU will be given in writing, in English.

13 BENEFIT OF THE MOU

13.1 This MoU will also be for the benefit of and be binding upon the successors–in-title and permitted assigns of the Parties or either of them.

14 APPLICABLE LAW AND COURT

14.1 This MoU will in all respects be governed by and construed under the laws of South Africa.

14.2 Notwithstanding the provisions of clause 11, the Parties are not prevented from approaching any appropriate Court of South Africa for urgent relief sought against any of the other Parties.

15 GENERAL

15.1 This MoU constitutes the whole MoU between the Parties relating to the matters dealt with herein and, saves to the extent otherwise provided herein, no undertaking, representation, term or condition relating to the subject matter of this MoU not incorporated in this MoU shall be binding on any of the Parties.

15.2 No addition to or variation, deletion, or agreed cancellation of all or any clauses or provisions of this MoU will be of any force or effect unless in writing and signed by the Parties.

15.3 No waiver of any of the terms and conditions of this MoU will be binding or effectual for any purpose unless in writing and signed by the Party giving the same. Any such waiver will be effective only in the specific instance and for the purpose given. Failure or delay on the part of either Party in exercising any right, power or privilege hereunder will not constitute or be deemed to be a waiver thereof, nor will any single or partial exercise of any right, power or privilege preclude any other or further exercise thereof or the exercise of any other right, power or privilege.

15.4 All provisions and the various clauses of this MoU are, notwithstanding the manner in which they have been grouped together or linked grammatically, severable from each other. Any provision or clause of this MoU which is or becomes unenforceable in any jurisdiction, whether due to voidness, invalidity, illegality, unlawfulness or for any other reason whatever, shall, in such jurisdiction only and only to the extent that it is so unenforceable, be treated as pro non scripto and the remaining provisions and clauses of this MoU shall remain of full force and effect. The Parties declare that it is their intention that this MoU would be executed without such unenforceable provision if they were aware of such unenforceability at the time of execution hereof.

15.5 Neither this MoU nor any part, share or interest herein nor any rights or obligations hereunder may be ceded, delegated or assigned by any Party without the prior written consent of the other Parties, save as otherwise provided herein.

15.6 In this MoU, clause headings are for convenience only and shall not be used in its interpretation and, unless the context clearly indicates a contrary intention, an expression which denotes, any one gender includes the other gender, a natural person includes an artificial or juristic person and vice versa and the singular includes the plural and vice versa.

16 COSTS

16.1 Each Party will bear and pay its own legal costs and expenses of and incidental to the negotiation, drafting, preparation and implementation of this MoU.

17 SIGNATURE

17.1 This MoU is signed by the Parties on the dates and at the places indicated opposite their respective names.

17.2 This MoU may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall be taken together and deemed to be one instrument.

17.3 The persons signing this MoU in a representative capacity warrant their authority to do so.

17.4 The Parties record that it is not required for this MoU to be valid and enforceable that a Party shall initial the pages of this MoU and/or have its signature of this MoU verified by a witness.

For and on behalf of: Bekkelaan Hydro

SIGNED at Pretoria on 4th August

Signature	
Name of Signatory	Anton - Louis Olivier
Designation of Signatory	Managing Director

For and on behalf of: Merino PV Project Development Consortium

SIGNED at Pretoria on 04-08-2011

Signature	
Name of Signatory	Florian Kroeber
Designation of Signatory	Director

ANNEX A

PROPERTY DESCRIPTION

WinDeed - Deeds and Companies Office Enquiries

Enquiry by Property

as at 08:54 on 18/06/2009

Deeds Registry	**Bloemfontein**
Property Type	**Farm**
Registration Division	**Bethlehem RD**
Farm Number	**210**
Portion Number	**1**
Farm Name	**De Burg Susan**

Information

Province	**Freestate**
Registration Division	**Bethlehem RD**
Local Authority	**Not Available**
Previous Description	
Diagram Deed Number	**T16004/2009**
Extent	**18.9675h**

Owners

1 of 1

Person Type	**Company**
Name	**Bethlehem Hydro Pty Ltd**
ID Number	**200200397307**
Title Deed	**T16004/2009**
Registration Date	**20090615**
Purchase Price	**R 1,500,000.00**
Share	
Purchase Date	**20090120**
Microfilm Reference	**Awaiting Mfilm**
Multiple Properties	**No**
Multiple Owners	**No**

Endorsements (None)

History (None)

End of Report

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by margav of Breytenbach Van der Merwe & Botha Inc.

WinDeed - Deeds and Companies Office Enquiries

Enquiry by Property

as at 08:54 on 18/06/2009

Deeds Registry	**Bloemfontein**
Property Type	**Farm**
Registration Division	**Bethlehem RD**
Farm Number	**1487**
Portion Number	**2**
Farm Name	**Merino**

Information

Province	**Freestate**
Registration Division	**Bethlehem RD**
Local Authority	**Not Available**
Previous Description	
Diagram Deed Number	**T16002/2009**
Extent	**3.3317h**

Owners

1 of 1

Person Type	**Company**
Name	**Bethlehem Hydro Pty Ltd**
ID Number	**200200397307**
Title Deed	**T16003/2009**
Registration Date	**20090615**
Purchase Price	**R 735,000.00**
Share	
Purchase Date	**20080429**
Microfilm Reference	**Awaiting Mfilm**
Multiple Properties	**No**
Multiple Owners	**No**

Endorsements (None)

History

1 of 1

Document	**T16002/2009 (Transfer)**
	Asrivier Boerdery CC
Amount/Price	**R 20,000.00**
Microfilm Reference	**Awaiting Mfilm**

End of Report

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