DRAFT BASIC ENVIRONMENTAL ASSESSMENT: CONSTRUCTION OF TREE-HOUSE

PROJECT:
The Development of a Tree-house for Tourist Accommodation, Marataba Safari Lodge, Marataba Section of the Marakele National Park

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PROPERTY:
Portion 2 of the farm Geelhoutbosch 269KQ Marataba Section of the Marakele National Park

7 February 2017

Marataba
SAFARI LODGE

EMROSS
CONSULTING (PTY) LTD

1 INTRODUCTION

Emross Consulting was appointed by More Concessions (Pty) Ltd. to undertake the required actions to apply for environmental authorisation from National Department of Environment (DEA: the decision-making authority) for the proposed development of a sleep-out deck, tree house, near the Marataba Lodge, in the Marataba section of the Marakele National Park, Limpopo Province.

The specific activity involve the development of tourism accommodation for two-five people, within a protected area.

This action is identified as an activity with potential detrimental effect on the environment; GN Regulation 985 of 4 December 2014 issued in terms of sections 24(2) and 24D of the National Environmental Management Act (NEMA, Act 107 of 1998) as **activity 5: "*The development of resorts, lodges, hotels and tourism or hospitality facilities that sleep less than 15 people, in (a) A protected area identified in terms of NEMPAA, …:"***

The Marataba Lodges are situated in a 23000ha private concession within the Marataba section of the Marakele National Park. The sleep out is proposed located approximately 3km from the Marataba Safari Lodge. The three proposed site alternatives are all located on portion 2 of the farm Geelhoutbosh 269KQ, SG21code T0KQ00000000026900002.

2 DESCRIPTION OF PROPOSED ACTIVITY

The Marakele Lodges attracts a number of tourists on an annual basis, which facilitates and promotes the protected area sustainability through eco-tourism. The experience of sleeping out, under the stars, in a tree house is a very unique way of experiencing the African bush. The MORE Lodges have had great success with this product offering at their other lodges in Kruger National Park and the Sabi Sands Game Reserve, and they would now like to make this product available at the Marataba Lodge.

The proposed sleep out (Fig. 1) will consist of a 2.5m high, free standing timber platform of approximately 80m^2. It will accommodate 2 adults and up to three accompanying children.

Figure 1: Proposed layout of Tree House.

The sleep-out will be serviced by a Biobox type package sewage treatment plant. Water will be transported, with a tanker, from the Marataba Safari Lodge and a minor solar PV set-up will provide lighting for the platform. Due to potential visual impact caused by light pollution only minimal, shielded lights will be used.

3 PUBLIC PARTICIPATION PROCESS

The application process has been subjected to public participation as per chapter 6 of the EIA regulations GN R 982 of 4 December 2014.

The report has been circulated to the following parties:

- Neighbouring land owners of Buffelspoort, Duikerpan, Blaauwpan, Groenvley, Tweeloopfontein and Vygeboomfontein;
- Marakele National Park, South African National Parks;
- Waterberg Biosphere Reserve; and
- Limpopo Department of Economic Development, Environment and Tourism.

3.1 SUMMARY OF COMMENTS AND RESPONSES

No comments has received from the public in response to on site or newspaper advertising at this stage.

Approval in principle, has been received from Marataba Conservation and South African National Parks.

The Marataba Conservation commented that the design should be minimalist, environmental and light pollution concerns must be addressed and they must be kept informed.

The SAN Parks supports the development as put forward.

All concerns raised has been accommodated in the design and planning of the development.

Documentation of public participation undertaken and copies of correspondence with I&AP's are included in Appendix E.

4 NEED AND DESIRABILITY

The sleep-out product offering is very popular at other MORE Lodges and as such the desirability is established. The development of tourism infrastructure in protected areas is recognised as a sustainable way to generate funding both for conservation and also for rural development.

The proposed tourism activity is in line with the recommended activities for the area according to the Marakele National Park Land Use Zoning Plan (Marakele National Park Management Plan, 2014, SANParks). Due to the above and because the proposed development is assessed as having a minimal potential environmental impact, it is suggested that the sleep-out tourism accommodation facility is both needed and desirable.

5 ALTERNATIVE ACTIVITY AND SITES

Three potential viable site alternatives were assessed for the sleep-out. Due to the activities being related to existing infrastructure, the number of viable alternatives is limited.

The selection criteria for the site was to be within 15 minutes drive from the lodge, at the foot of the mountain and with a large tree.

The identified sites are;

1. Site 1: 2.8km from the existing Marataba Safari Lodge and 10-20m off the existing management road. This site is located between the Dassie Heights and Black Rhino Dam. The site has a mature Boer Bean – *Schotia brachypetala* tree.
2. Site 2: A little less that 1km further along the road from site 1. This site would require a 50-70m long access road. This site is also located between the Dassie Heights and Black Rhino Dam at the foot of the mountain. This site has no mature trees and a fair covering of exposed sand stones..
3. Site 3: 300m further down the road from site 2. This site is very similar to site two, but has a more extensive covering of exposed sand stone. This site has no mature trees. The access to this site would be 60-80 metres long.

Site 1 was selected as the preferred sleep-out site, due to the presence of the mature tree and the shorter access route. The design of the platform has minimal impact to vegetation and soils and as such it was assessed that this site will not have a significant higher impact to the receiving environment.

The No-Go Alternative:

The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives should be compared.

Should the proposed building activity not go ahead, any potential environmental impacts, associated with building and operating the sleep-out, would be avoided.

The proposed preferred site is in an established natural condition. The proposed sleep-out will cause some unavoidable impact to the site. With the proposed design and construction methods, it is however assessed that much of this impact can be mitigated. The vegetation type on site, although in a protected area, is not locally threatened and no irreplaceable habitat will be damaged by the footprint of the proposed development. The desirability of the sleep-out is established and it is proposed that the no-go alternative is not recommended.

Activity Alternative:

No alternative activity has been assessed due to the proposed activities being associated with the existing lodge activities.

6 ASSUMPTIONS AND LIMITATIONS

The Basic Assessment Report has been prepared on the strengths of the information available, from our field surveys and that provided by the applicant at the time of the assessment. The assessment was conducted as a desktop and field survey. Topographical and Ecological maps

were used. The assumptions made and constraints that were prevalent did not obviously have any restrictive or negative implications on the study.

In undertaking this investigation and compiling the Basic Assessment Report, the following has been assumed:

- The information provided by the client is accurate;
- The scope of this investigation is limited to assessing the environmental impacts associated with the construction of the proposed sleep-out platform.
- Should the project be authorised, the applicant will implement any layout changes, recommendations and mitigation measures outlined in the BA and authorisation into the detailed design and construction contract specifications of the proposed project.

7 EAP RECOMMENDATIONS

All environmental impacts may be mitigated.

Impact wise, the three sleep-out sites are similar and there is not a great deal to choose between them. Based on the assessment and information gathered, the EAP recommends that the sleep-out is authorised on the preferred site.

7.1 PREFERRED ALTERNATIVES

The sleep-out should be constructed at the preferred site, site 1.

No-go alternative

This is not recommended as the assessed impacts are minimal and potential impacts may be mitigated. The need for the sleep-out is established and as such should be allowed to proceed.

7.2 ADDITIONAL MITIGATION MEASURES

The environmental management programme (EMPr) should form part of the contract between the construction company and the client. This will help ensure that the EMPr is adhered to.

An Environmental Control Officer (ECO) should be appointed for the construction, as this will assist the contractor overcoming any unforeseen issues at the time of construction and be able to provide a level of assurance and oversight to stakeholders that the site is being well managed.

8 CONCLUSION

Based on the information contained in this report, it is the opinion of the environmental assessment practitioner that, provided the negative aspects of the proposed development are mitigated in accordance with the mitigation measures proposed, and as reflected in the environmental management programme, the potential impact of the proposed development of a sleep-out near Marataba Safari Lodge is limited.

The choice of site for the sleep-out has been carfully planned, with environmental considerations at the forefront. Every effort has been made to protect and maintain the existing vegetation. The impact to the site is limited. The overall loss of habitat will be very small.

The No-Go option would denie the opportunity to further develop the lodge and the wilderness experience of Marataba. Bearing in mind that all significant negative impacts can be mitigated and managed is therefore recommended that the No-Go Alternative not be supported.

It is therefore the opinion of the EAP, based on the evidence provided, that there is no reason not to develop the sleep-out on the preffered site.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

(For official use only)

File Reference Number:	
Application Number:	
Date Received:	

Basic assessment report in terms of the Environmental Impact Assessment Regulations, 2014, 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, 2014 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. This report format is current as of **08 December 2014**. It is the responsibility of the applicant to ascertain whether subsequent versions of the form have been published or produced by the competent authority
3. 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.
4. Where applicable **tick** the boxes that are applicable in the report.
5. An incomplete report may be returned to the applicant for revision.
6. 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.
7. This report must be handed in at offices of the relevant competent authority as determined by each authority.
8. No faxed or e-mailed reports will be accepted.
9. The signature of the EAP on the report must be an original signature.
10. The report must be compiled by an independent environmental assessment practitioner.
11. 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.
12. A competent authority may require that for specified types of activities in defined situations only parts of this report need to be completed.
13. 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.
14. Two (2) colour hard copies and one (1) electronic copy of the report must be submitted to the competent authority.
15. Shape files (.shp) for maps must be included in the electronic copy of the report submitted to the competent authority.

SECTION A: ACTIVITY INFORMATION

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

If YES, please complete the form entitled "Details of specialist and declaration of interest" for the specialist appointed and attach in Appendix I.

1. PROJECT DESCRIPTION

a) Describe the project associated with the listed activities applied for

More Concession 1 wishes to develop a sleep out platform, for the purpose of tourism accommodation, within the Marataba section of the Marakele National Park. The platform is intended to accommodate two adults with the option of bringing up to three children.

b) Provide a detailed description of the listed activities associated with the project as applied for

Listed activity as described in GN R 983, 984 and 985	Description of project activity
GN R.985 Activity #5 (a): The development of resorts, lodges and tourism or hospitality facilities that sleep less than 15 people.	***The development of a 2.7m high platform sleep out, with an 80m² footprint, accommodating a maximum of five people, for the purpose of tourism accommodation, Within a protected area proclaimed in terms of NEMPAA***

2. FEASIBLE AND REASONABLE ALTERNATIVES

"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 as required by Appendix 1 (3)(h), Regulation 2014. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity (NOT PROJECT) 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.

The identification of alternatives should be in line with the Integrated Environmental Assessment Guideline Series 11, published by the DEA in 2004. Should the alternatives include different locations and lay-outs, the co-ordinates of the different alternatives must be provided. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

a) Site alternatives

Alternative 1 (preferred alternative)		
Treehouse 1:	Lat (DDMMSS)	Long (DDMMSS)
This site is 10 to 20 meters off the existing park road. The site is characterised by a large weeping boer-bean tree. The site is located midslope below the Waterberg mountains. The site has some level of exposed sand stones.	24°22'22.90"S	27°34'16.56"E
Alternative 2		
	Lat (DDMMSS)	Long (DDMMSS)
Treehouse 2: 50 to 70 meters off the existing park road, midslope below the Waterberg mountains. The site has no mature trees and more exposed sandstone than site 1.	24°22'27.35"S	27°34'0.29"E
Alternative 3		
	Lat (DDMMSS)	Long (DDMMSS)
Treehouse 3: 60 to 80 meters off the existing park road, midslope below the Waterberg mountains. The site has no mature trees and a high level of exposed sandstone.	24°22'28.80"S	27°33'54.79"E

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
Alternative S1 (preferred)		
• 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.

In the case of an area being under application, please provide the co-ordinates of the corners of the site as indicated on the lay-out map provided in Appendix A of this form.

b) Lay-out alternatives

Alternative 1 (preferred alternative)		
Description	Lat (DDMMSS)	Long (DDMMSS)
The layout will be similar on each site, however site specifics such as existing trees may affect exact orientation.		
Alternative 2		
Description	Lat (DDMMSS)	Long (DDMMSS)
Alternative 3		
Description	Lat (DDMMSS)	Long (DDMMSS)

c) Technology alternatives

Alternative 1 (preferred alternative)
No technology alternatives are envisaged
Alternative 2
Alternative 3

d) Other alternatives (e.g. scheduling, demand, input, scale and design alternatives)

Alternative 1 (preferred alternative)		
Access road will be +/-20m		
Alternative 2		
Access road will be +/-65m		
Alternative 3		
Access road will be +/-80m		

e) No-go alternative

The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives should be compared.

Should the proposed building activity not go ahead, any potential environmental impacts, associated with building and operating the over-night deck, would be avoided.

The proposed preferred site is on a natural clearing in the vegetation, centred close to an iconic weeping boer-bean tree. The proposed deck will cause some unavoidable impact to the site. With the proposed design and construction methods, it is however assessed that much of this impact can be

mitigated. The vegetation type on site, although in a protected area, is not locally threatened and no irreplaceable habitat will be damaged by the footprint of the proposed development. As the facility is desirable and the need established as well as the ability to mitigate environmental damage (as discussed below), there is no requirement to recommend the no-go option.

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

3. PHYSICAL SIZE OF THE ACTIVITY

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

Alternative:	**Size of the activity:**
Alternative A1[1] (preferred activity alternative)	80m^2
Alternative A2 (if any)	80m^2
Alternative A3 (if any)	80m^2

or, for linear activities:

Alternative:	**Length of the activity:**
Alternative A1 (preferred activity alternative)	m
Alternative A2 (if any)	m
Alternative A3 (if any)	m

b) 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)	23 000 ha
Alternative A2 (if any)	23 000 ha
Alternative A3 (if any)	23 000 ha

4. SITE ACCESS

Does ready access to the site exist?	YES	NO
If NO, what is the distance over which a new access road will be built		20-90m

Describe the type of access road planned:

Two track dirt road, the length of which depends on which site is selected.

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.

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

5. 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 accurate indication of the project site position as well as the positions of the alternative sites, if any;
- indication of all the alternatives identified;
- closest town(s;)
- 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).

6. LAYOUT/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:

- the property boundaries and numbers of all the properties within 50 metres of the site;
- the current land use as well as the land use zoning of the site;
- the current land use as well as the land use zoning each of the properties adjoining the site or sites;
- the exact position of each listed activity applied for (including alternatives);
- servitude(s) indicating the purpose of the servitude;
- a legend; and
- a north arrow.

7. SENSITIVITY MAP

The layout/route plan as indicated above must be overlain with a sensitivity map that indicates all the sensitive areas associated with the site, including, but not limited to:

- watercourses;
- the 1:100 year flood line (where available or where it is required by DWS);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species); and
- critical biodiversity areas.

The sensitivity map must also cover areas within 100m of the site and must be attached in Appendix A.

8. 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 report**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

9. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of at least 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.

10. ACTIVITY MOTIVATION

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

1. Is the activity permitted in terms of the property's existing land use rights?	YES	NO	Please explain
The Marataba section of Marakele National Park, is a contract park, jointly managed by SANParks and Marataba. Within the Marataba section, the Marataba Safari Lodge (More) have a concession to operate tourist lodges. The development of tourist camps and infrastructure is permitted in terms of the Marakele National Park Land Use Zoning Plan (Marakele National Park Management Plan, 2014, SANParks). Currently, the area includes the Marataba Safari lodge, the Marataba Trails Lodge and accommodation units, and as part of their long-term plans, the park intends to expand its tourism facilities. The property falls within the 'Low intensity leisure zone' which specifically caters for "...motorised self-drive access with the possibility of small basic camps but without commercial facilities such as shops and restaurants…"			
2. Will the activity be in line with the following?			
(a) Provincial Spatial Development Framework (PSDF)	YES	NO	Please explain
The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg District Municipality Integrated development Plan 2012/13, and the stated objectives of "promotion of tourism for the area of the district municipality."			
(b) Urban edge / Edge of Built environment for the area	YES	NO	Please explain
The development is within in a Protected Area, where development of tourist infrastructure is governed by the Protected Area Integrated Management Plan. The urban edge is not applicable to the proposed development.			

(c) Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality (e.g. would the approval of this application compromise the integrity of the existing approved and credible municipal IDP and SDF?).	YES	NO	Please explain
The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg District Municipality Integrated development Plan 2012/13, and the stated objectives of "promotion of tourism for the area of the district municipality." This includes the development of tourism activities and facilities, marketing of the area, as well as skills transfer and training in the tourism / hospitality sector, and environmental education. The development of the Marakele Park's tourism base responds to these objectives and will not compromise the integrity of the existing approved and credible municipal IDP and SDF.			
(d) Approved Structure Plan of the Municipality	YES	NO	Please explain
The development falls within a National Protected Area and is outside the boundaries of municipal area.			
(e) An Environmental Management Framework (EMF) adopted by the Department (e.g. Would the approval of this application compromise the integrity of the existing environmental management priorities for the area and if so, can it be justified in terms of sustainability considerations?)	YES	NO	Please explain
The development of tourism infrastructure within the Marakele Park is in line with the principles of the Waterberg Environmental Management Framework. The proposed development will not compromise the integrity of the existing environmental management priorities for the area and can be justified in terms of sustainability considerations. The Marakele Park falls within Environmental Management Zone 1: Protection of the natural vegetation, landscape and rock paintings areas, with limited appropriate tourism.			

(f) Any other Plans (e.g. Guide Plan)	YES	NO	Please explain
The Marataba section (15 753 ha) is owned by The Marakele Park (PTY) Ltd. The expansion of the national park included the incorporation of land owned by The Marakele Park (PTY) Ltd as a schedule 2(b)1(b) National Park into the Marakele National Park. The contractual park agreement between Marakele Park (PTY) Ltd and SANParks, signed in November 2000, enabled the expansion of the Marakele National Park and has as its core the development of a sustainable income generating model for The Marakele Park (PTY) Ltd as well as the Marakele National Park. In this contractual agreement SANParks and The Marakele Park (PTY) Ltd agree to work together on the project in which The Marakele Park (PTY) Ltd establishes, promotes and manages operations on the properties in consultation with SANParks through the contractually established Joint Management Committee. The intention of the contractual agreement is that SANParks will acquire the land at the end of the contract period in 2030, alternatively the contract will be renewed for an additional period of 30 years. A co-management agreement exists between SANParks and The Marakele Park (PTY) Ltd. This agreement, amongst other things, provides for the delegation of powers by SANParks to The Marakele Park (PTY) Ltd to manage the land, owned by The Marakele Park (PTY) Ltd as well as land owned by SANParks and the National Parks Trust. The Marakele National Park management plan is applicable to The Marakele Park (PTY) Ltd which is referred to as the Marataba section in the plan.			
3. Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved SDF agreed to by the relevant environmental authority (i.e. is the proposed development in line with the projects and programmes identified as priorities within the credible IDP)?	YES	NO	Please explain
The project is not subject to specified SDF timeframes.			
4. Does the community/area need the activity and the associated land use concerned (is it a societal priority)? (This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate.)	YES	NO	Please explain
The project is not a societal priority in the national context, but it is a contributor to socio-economic development on a local level, and can be considered a priority on this level.			
5. Are the necessary services with adequate capacity currently available (at the time of application), or must additional capacity be created to cater for the development? (Confirmation by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES	NO	Please explain
No additional service capacity (Municipal or otherwise) will be required. The sleep out platform will be off-grid, and water will be provided by a trailer tanker. Furthermore, the scale of the sleep out platform is such (5 guests) that required services will be very limited (water, power, waste).			

6. Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services and opportunity costs)? (Comment by the relevant Municipality in this regard must be attached to the final Basic Assessment Report as Appendix I.)	YES	NO	Please explain
The development is not catered for in the infrastructure planning of the municipality			
7. Is this project part of a national programme to address an issue of national concern or importance?	YES	NO	Please explain
The proposed project does not address any issue of national concern or importance.			
8. Do location factors favour this land use (associated with the activity applied for) at this place? (This relates to the contextualisation of the proposed land use on this site within its broader context.)	YES	NO	Please explain
The locations of the sites are within a Protected Area, where conservation and ecotourism are the primary land uses. The proposed structure has a small footprint and is mostly above ground on pillars.			
9. Is the development the best practicable environmental option for this land/site?	YES	NO	Please explain
The development opens up the eco-tourism potential of the area to a wider and more diverse market.			
10. Will the benefits of the proposed land use/development outweigh the negative impacts of it?	YES	NO	Please explain
The benefits of expanding the tourist experience at the Marataba Safari lodge, within the Marakele Park are positive, while the negative impacts are mitigatable to a large extent. The activity is low impact and environmentally sustainable. It is also located close to the existing lodge with easy access.			
11. Will the proposed land use/development set a precedent for similar activities in the area (local municipality)?	YES	NO	Please explain
It is not anticipated that a precedent will be set. The site will only be used by lodge guests so will not increase the tourism guest nights in the park.			
12. Will any person's rights be negatively affected by the proposed activity/ies?	YES	NO	Please explain
It is not anticipated that any person's rights will be affected at all. The public participation process has not raised this as an issue.			
13. Will the proposed activity/ies compromise the "urban edge" as defined by the local municipality?	YES	NO	Please explain
The activities are within a Protected Area, beyond the Urban Edge. The urban edge is not applicable to this project.			

14. Will the proposed activity/ies contribute to any of the 17 Strategic Integrated Projects (SIPS)?	YES	NO	Please explain
The project will contribute in a small way to the SPATIAL SIP 11: Agri-logistics and rural infrastructure: 'Improve investment in agricultural and rural infrastructure that supports expansion of production and employment of tourism infrastructure et-al.'			
15. What will the benefits be to society in general and to the local communities?			Please explain
It is anticipated that the further development of the tourism facilities in the Marataba section of the Marakele Park will realise benefits to society, in general, through the increase of tourism infrastructure and access to natural heritage preserved within the Protected Area. Benefits for the local community will be realised in the form of job creation (albeit limited due to the small scale of the project), skills transfer and training. Opportunity also exists, though the increase of the tourism market to stimulate the development of SMME's (lodge supplies and curios, for example).			
16. Any other need and desirability considerations related to the proposed activity?			Please explain
It is important to the development of tourism in the Marakele Park that life-time experiences are provided. MORE sees great potential for the inclusion of a treehouse/platform sleepout experience at Marataba. MORE has seen similar concept be successful at each of its Lion Sands Lodges and is also in the process of developing a similar sleepout at Madikwe Safari Lodge. The Marataba Lodge development caters exclusively to the higher income market, offering game drive safaris. Tourism is the basis of the financial viability of this protected area, and it is in the interest of the Marataba operation to expand the scope of attractions and activities offered to guests.			
17. How does the project fit into the National Development Plan for 2030?			Please explain
The National Development Plan 2030 identifies sectors that need to play a role in alleviating poverty and eliminating inequality by 2030 in South Africa. Tourism and hospitality is one sector that can play a meaningful role in this regard. The Marataba Lodge plays a role in local job creation, skills transfer, training and environmental education. Local communities may also gain practical and technical skills during the construction phase of the project.			

18. Please describe how the general objectives of Integrated Environmental Management as set out in section 23 of NEMA have been taken into account.

The proposed project has been undertaken according to section 23 of the National Environmental Management Act (NEMA) (No 107 of 1998) and in this respect, the following has been considered:

- An Application for the Environmental Authorisation lodged with the Department of Environmental Affairs.
- A public participation process was facilitated, including comprehensive advertising of the project (press media, site notices, direct communication), and distribution of information, including a Background Information Document, to relevant stakeholders and interested and affected parties.
- Specialist input and assessment was effected.
- Potential impacts on the natural environment, socio-economic environment, cultural historic environment and aesthetic environment have been assessed and associated mitigation measures have been described.
- The Protected Area Management plan (2014 – 2024) has been considered.
- Consultation with the land owners (Marakele Pty. Ltd) to ensure the developments do not negatively impact the area and there is support for the proposed sleep out facility.
- An approval (in terms of regulation 99 or 8 February 2012, item 39) requested from the management authority.

19. Please describe how the principles of environmental management as set out in section 2 of NEMA have been taken into account.

Principals of NEMA	**Consideration in development of the Marataba sleep out platform**
Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.	The development of a sleep out platform will enable the public to benefit from the sustainable utilization of the resource by providing low impact access to the area, and opportunity to experience the natural heritage and by creating direct and indirect benefits to the local community.

Development must be socially, environmentally and economically sustainable.	The development is guided by the principles of sustainability, tread lightly, and environmental sensitivity. The design, construction and operation of the facility will take cognisance of ecological, socio-economic, aesthetic and heritage opportunities and constraints.
Sustainable development requires the consideration of all relevant factors including the following:	
That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;	Trees, particularly protected trees, will not be damaged or destroyed. The sites do not have special biodiversity constraints.
that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;	The site will be serviced with a septic tank and soak away or mini package plant. All other waste will be removed and entered into existing waste streams at the lodge.
that the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be altogether avoided, is minimised and remedied;	The site does not break the skyline and is at a height similar to the natural tree canopy, limiting visual impact.
that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;	Waste management during construction and operation will be managed.
that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;	The site will be 'off grid' and not require services to be laid. The site will be powered by asmall solar installation
that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;	The site will have a low demand on resources.
that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and	The sites have been assessed by specialists to determine biological and environmental risk.
that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.	The assessment provides for mitigation measures to be implemented in the development and operation.

Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.	Care has been taken to align the proposed sleepout with existing plans and is guided by experience of similar facilities in other national parks.	
Environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons.	A public participation process has been undertaken.	
Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.	The development does not infringe access to environmental resources.	
Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.	The development and operation will be guided by an environmental management plan which contains appropriate mitigation measures.	
The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.	A public participation and stakeholder process has been actioned for this project and stakeholders and interested and affected parties have been identified, notified and empowered.	
Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.	The activity should not impact on cultural heritage. The design and development is open to IKS contributions.	
Community well-being and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.	The opportunity to sleep out under the starts in a culturally and biodiversity rich protected area is an excellent environmental awareness, educational and empowering experience.	
The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.	Socio-economic components are considered in the assessment	

The right of workers to refuse work that is harmful to human health or the environment and to be informed of dangers must be respected and protected.	Noted.
Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.	Noted
There must be inter-governmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.	Noted
Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.	
Global and international responsibilities relating to the environment must be discharged in the national interest.	
The environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage.	The area is privately owned National Park.
The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.	noted
The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.	noted
Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure.	

11. 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	Applicability to the project	Administering authority	Date
Constitution of Republic of South Africa (108 of 1996):	This is the fundamental law of South Africa, setting out the Bill of Rights as well as the relationship of various government structures to each other. "Everyone has the right – (a) to an environmental that is not harmful to health or well-being; and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that – (i) prevent pollution; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development. "	National Government	1996
Conservation of Agricultural Resources (Act 43 of 1983):	The purpose of the Conservation of Agricultural Resources Act No. 43 of 1983 (CARA) is to provide for control over the utilisation of the natural agricultural resources of the Republic in order to promote the conservation of the soil, the water sources and the vegetation and the combating of weeds and invader plants.	National Department of Agriculture (DAFF)	1983
National Environmental Management: Protected Areas Act (Act No. 57 of 2003):	The Act provides for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes; for the establishment of a national register of all national, provincial and local protected areas; for the management of those areas in accordance with national norms and standards; for intergovernmental co-operation and public consultation in matters concerning protected areas, and for matters in connection therewith. The proposed development falls within the Marakele National Park, a Protected Area in terms of this Act, and will therefore be subject to the provisions of this Act.	Department of Environmental Affairs	2003

National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004):	The objects of the National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA) are to provide for the management and conservation of biological diversity within South Africa and of the components of such biological diversity; to give effect to ratified international agreements that are binding on South Africa; and to ensure the protection of the ecosystem as a whole, including species that are not targeted for exploitation.	Department of Environmental Affairs	2004
National Spatial Biodiversity Assessment:	The National Spatial Biodiversity Assessment (NSBA) classifies areas as worthy of protection based on its biophysical characteristics, which are ranked according to priority levels. The proposed development site is located in the Western Sandy Bushveld, which is ranked as Least Threatened, yet Poorly Conserved.	Department of Environmental Affairs and SANBI	2011
National Forests Act, 1998 (Act no 84 of 1998):	The purposes of the National Forests Act No. 84 of 1998 (NFA) are, inter alia, to promote the sustainable management and development of forests for the benefit of all and to enact special measures for the protection of certain forests and trees. The minister may declare any tree, group of trees, woodland or species to be protected trees, groups of trees and species (Section 12) or a particular forest to be a "natural forest" (Section 7). Specified activities in respect of these areas or trees are prohibited by the NFA. Protected trees require permits to move, or damage them.	Department of Agriculture, Forestry and Fisheries	1998
National Heritage Resources Act 25 of 1999	The National Heritage Resources Act legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 hectares (ha) and where linear developments exceed 300 metres in length. In this regard, the proposed development site will not be subject to engagement with the South African Heritage Resources Agency (SAHRA). Potential impact on cultural heritage, paleontological or archaeological resources through excavation activities or disturbance, whilst unlikely, will need to be monitored.	South African Heritage Resources Agency (SAHRA)	1999
The National Water Act, (Act No. 36 of 1998)	The purpose of the National Water Act 36 of 1998 (NWA) is to ensure that the nation's water resources are protected, used, developed, managed and controlled in ways that ensure that the integrity of water resources are protected.	Department of Water Affairs	1998
National Environmental Management	The National Environmental Management: Waste Act (NEMWA) was primarily enacted to reform the law regulating waste management in order to protect health and the environment by providing	Department of Environmental Affairs	2008

Waste Act 59 of 2008	reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development.		
Occupational Health and Safety Act, 1993 (Act No. 85 of 1993):	The purpose of this Act is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with, the activities of persons at work. The proposed development will therefore be subject to this Act during the construction and operational phases of the project.	National Department of Labour	1993
DEA Integrated Environmental Management Information Series	IEM is a key instrument of NEMA and provides the overarching framework for the integration of environmental assessment and management principles into environmental decision-making. The aim of the information series is to provide general information on techniques, tools and processes for environmental assessment and Management. ERM have referred to these various documents for information on the most suitable approach to the environmental assessment process for the proposed development.	Department of Environmental Affairs	1992

12. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	YES	NO
If YES, what estimated quantity will be produced per month?		<1m^3

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

Minimal amounts of subsoil, from digging of holes for the poles and off-cuts from decking will be left over from construction of the deck. The soil will be used in road maintenance applications as appropriate and other construction waste generated will be removed from site and disposed of in the most appropriate legal manner.

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

Any of the waste which can be used in on-site applications will be. The remainder construction waste will enter the general waste stream and be removed from the reserve to a registered landfill site in Thabazimbi.

Will the activity produce solid waste during its operational phase?	YES	NO
If YES, what estimated quantity will be produced per month?		<1m^3

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

General waste generated by the occupants of the platform will be stored, inaccessible to scavengers and removed from site daily.

If the solid waste will be disposed of into a municipal waste stream, indicate which registered landfill site will be used.

The solid waste generated in the Marakele Park is collected by a registered refuse removal company on contract to the Marakele Park, and disposed of at a registered landfill site in Thabazimbi.

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

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 NEM:WA? YES | NO

If YES, inform the competent authority and request a change to an application for scoping and EIA. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

Is the activity that is being applied for a solid waste handling or treatment facility? YES | 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. An application for a waste permit in terms of the NEM:WA must also be submitted with this application.

b) Liquid effluent

Will the activity produce effluent, other than normal sewage, that will be disposed of in a municipal sewage system?	YES	NO
If YES, what estimated quantity will be produced per month?		m^3
Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	NO

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

The ablution facility at the platform will be connected to a biorock or similar small, closed system, package plant. This plant will be connected to a soak-away. The amount of waste water produced on site will be well below any thresholds requiring authorisation.

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

If YES, provide the particulars of the facility:

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

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

There will be no water re-cycling taking place on site. Any water to be used will need to be transported to site. The assessed water use will be minimal.

c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere other that exhaust emissions and dust associated with construction phase activities?	YES	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	NO

If YES, the applicant must 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:

d) Waste permit

Will any aspect of the activity produce waste that will require a waste permit in terms of the NEM:WA?	YES	NO

If YES, please submit evidence that an application for a waste permit has been submitted to the competent authority

e) Generation of noise

Will the activity generate noise?	YES	NO
If YES, is it controlled by any legislation of any sphere of government?	YES	NO

Describe the noise in terms of type and level:

13. 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:	15000 litres	
Does the activity require a water use authorisation (general authorisation or water use license) from the Department of Water Affairs?	YES	NO

If YES, please provide proof that the application has been submitted to the Department of Water Affairs.

The platform water supply will be from a tanker which will be filled up from the lodge. The platform will not have its own borehole and it is too far from the lodge to install a pipeline.

14. ENERGY EFFICIENCY

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

The platform will not be connected to Eskom electricity, but may have a solar power installation for lighting.

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

The platform will not be connected to Eskom electricity, but may have a solar power installation for lighting.

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 B and indicate the area, which is covered by each copy No. on the Site Plan.

Section B Copy No. (e.g. 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? YES | NO

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

Property description/physical address:

Province	Limpopo
District Municipality	Waterberg District Municipality
Local Municipality	Lephalale Local Municipality
Ward Number(s)	3
Farm name and number	Geelhoutbosch 269KQ
Portion number	2
SG Code	T0KQ00000000026900002

Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application including the same information as indicated above.

Current land-use zoning as per local municipality IDP/records:

Conservation

Declared protected in terms of NEMPAA – Marakele National Park

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? YES | NO

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. LOCATION IN LANDSCAPE

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

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

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

The vegetation type on all sites is Waterberg Mountain Bushveld (SVcb17) going into Western Sandy Bushveld (SVcb16) (Mucina & Rutherford 2006) The conservation status of both is 'Least Threatened'.

5. SURFACE WATER

Indicate the surface water present on and or adjacent to the site and alternative sites?

Perennial River	YES	NO	UNSURE
Non-Perennial River	YES	NO	UNSURE
Permanent Wetland	YES	NO	UNSURE
Seasonal Wetland	YES	NO	UNSURE
Artificial Wetland	YES	NO	UNSURE
Estuarine / Lagoonal wetland	YES	NO	UNSURE

If any of the boxes marked YES or UNSURE is ticked, please provide a description of the relevant watercourse.

None of the sites are near any watercourse.

6. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that 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:

Natural area	Dam or reservoir	Polo fields
Low density residential	Hospital/medical centre	Filling station [H]
Medium density residential	School	Landfill or waste treatment site
High density residential	Tertiary education facility	Plantation
Informal residential[A]	Church	Agriculture
Retail commercial & warehousing	Old age home	River, stream or wetland
Light industrial	Sewage treatment plant[A]	Nature conservation area
Medium industrial [AN]	Train station or shunting yard [N]	Mountain, koppie or ridge

Heavy industrial [AN]	Railway line [N]	Museum
Power station	Major road (4 lanes or more) [N]	Historical building
Office/consulting room	Airport [N]	Protected Area
Military or police base/station/compound	Harbour	Graveyard
Spoil heap or slimes dam[A]	Sport facilities	Archaeological site
Quarry, sand or borrow pit	Golf course	Other land uses (describe)

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

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

If any of the boxes marked with an "[H]" are ticked, how will this impact / be impacted upon by the proposed activity? Specify and explain:

Does the proposed site (including any alternative sites) fall within any of the following:

Critical Biodiversity Area (as per provincial conservation plan)	YES	NO
Core area of a protected area?	YES	NO
Buffer area of a protected area?	YES	NO
Planned expansion area of an existing protected area?	YES	NO
Existing offset area associated with a previous Environmental Authorisation?	YES	NO
Buffer area of the SKA?	YES	NO

If the answer to any of these questions was YES, a map indicating the affected area must be included in Appendix A.

7. 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 Archaeological or paleontological sites, on or close (within 20m) to the site? If YES, explain:	YES	NO
	Uncertain	

If uncertain, conduct a specialist investigation by a recognised specialist in the field (archaeology or palaeontology) to establish whether there is such a feature(s) present on or close to the site. Briefly explain the findings of the specialist:

The treehouse development will not have any impact on the cultural heritage remains in the area.

Will any building or structure older than 60 years be affected in any way?	YES	NO
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	YES	NO

If YES, please provide proof that this permit application has been submitted to SAHRA or the relevant provincial authority.

8. SOCIO-ECONOMIC CHARACTER

a) Local Municipality

Please provide details on the socio-economic character of the local municipality in which the proposed site(s) are situated.

Level of unemployment:

According to the National Census 2011, 42% of the population are receiving government grants. Approximately 12 234 households depend on free basic services. Almost 67% of the population is of working age (between 15 and 59 years old). Unemployment amongst the youth is currently at 27%. Overall, unemployment in Lephalale Local Municipality (LLM) is at 22% (below the provincial average), due to the local developments relating to the new Eskom (Medupi) power station and the expansion of coal production. The high rate of unemployment implies that opportunities for the establishment of small industries or businesses which are labour intensive should be pursued in order to make use of the potential workforce.

Economic profile of local municipality:

Lephalale has been identified by Limpopo Employment Growth and Development Plan as a petrochemical cluster and has attained the status of national development node. The Waterberg coal fields which boast more than 40% of the total coal reserve of South Africa are located in Lephalale.

The Municipality is on the verge of huge economic development related to mining and energy generation due to the recent development of a new power station and expansion of mining activities. The construction of the 40 000MW power station known as Medupi next to Matimpa Power Station is at an advanced stage.

The tourism industry is important to the economy of the area and will continue to be given attention in this regard.

Agriculture, especially red meat production, is a potential economic activity which is likely to grow within the municipal area.

Level of education:

Provincially, 33.4% of those in the Limpopo Province aged 20 years and older have no formal education, and 67.6% of those with no formal education are women.
Within the Waterberg District Municipality, the percentage of learners who passed the matric examination in 2010 was 48%, well below the national and provincial averages. The Waterberg District Municipality also fairs very poorly in terms of Literacy and Numeracy when compared against the provincial and national averages.

b) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	R 500 000	
What is the expected yearly income that will be generated by or as a result of the activity?	R 100 000	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	YES	NO
How many new employment opportunities will be created in the development and construction phase of the activity/ies?	4	
What is the expected value of the employment opportunities during the development and construction phase?	R 50 000	
What percentage of this will accrue to previously disadvantaged individuals?	60%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	unsure	
What is the expected current value of the employment opportunities during the first 10 years?	R	
What percentage of this will accrue to previously disadvantaged individuals?	100%	

9. BIODIVERSITY

Please note: The Department may request specialist input/studies depending on the nature of the biodiversity occurring on the site and potential impact(s) of the proposed activity/ies. To assist with the identification of the biodiversity occurring on site and the ecosystem status consult http://bgis.sanbi.org or BGIShelp@sanbi.org. Information is also available on compact disc (cd) from the Biodiversity-GIS Unit, Ph (021) 799 8698. This information may be updated from time to time and it is the applicant/ EAP's responsibility to ensure that the latest version is used. A map of the relevant biodiversity information (including an indication of the habitat conditions as per (b) below) and must be provided as an overlay map to the property/site plan as Appendix D to this report.

a) Indicate the applicable biodiversity planning categories of all areas on site and indicate the reason(s) provided in the biodiversity plan for the selection of the specific area as part of the specific category)

Systematic Biodiversity Planning Category				**If CBA or ESA, indicate the reason(s) for its selection in biodiversity plan**
Critical Biodiversity Area (CBA)	Ecological Support Area (ESA)	Other Natural Area (ONA)	No Natural Area Remaining (NNR)	Protected areas are normally outside of the biodiversity planning areas as they are already protected.

b) Indicate and describe the habitat condition on site

Habitat Condition	**Percentage of habitat condition**	**Description and additional Comments and Observations**

	class (adding up to 100%)	**(including additional insight into condition, e.g. poor land management practises, presence of quarries, grazing, harvesting regimes etc).**
Natural	100%	Protected area under NEM:PAA
Near Natural (includes areas with low to moderate level of alien invasive plants)	%	
Degraded (includes areas heavily invaded by alien plants)	%	
Transformed (includes cultivation, dams, urban, plantation, roads, etc)	%	

c) Complete the table to indicate:

(i) the type of vegetation, including its ecosystem status, present on the site; and

(ii) whether an aquatic ecosystem is present on site.

Terrestrial Ecosystems		**Aquatic Ecosystems**						
Ecosystem threat status as per the National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	Critical	Wetland (including rivers, depressions, channelled and unchanneled wetlands, flats, seeps pans, and artificial wetlands)			Estuary		Coastline	
	Endangered							
	Vulnerable							
	Least Threatened	YES	NO	UNSURE	YES	NO	YES	NO

d) Please provide a description of the vegetation type and/or aquatic ecosystem present on site, including any important biodiversity features/information identified on site (e.g. threatened species and special habitats)

The vegetation type on all sites is Waterberg Mountain Bushveld (SVcb17) going into Western Sandy Bushveld (SVcb16) (Mucina & Rutherford 2006) The conservation status of both is 'Least Threatened'. There are no aquatic ecosystems present.

Please refer to Appendix D? Specialist Ecological Assessment

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT AND NOTICE

Publication name	Platinum Bushvelder	
Date published	9 September 2016	
Site notice position Airstrip Gate	**Latitude**	**Longitude**
	-24.266358	27.493619
Site notice position Main Gate	**Latitude**	**Longitude**
	-24.345657	27.494884
Site notice position Marakele NP	**Latitude**	**Longitude**
Date placed	20 August 2016	

Include proof of the placement of the relevant advertisements and notices in Appendix E1.

2. DETERMINATION OF APPROPRIATE MEASURES

Provide details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN 733.

Key stakeholders (other than organs of state) identified in terms of Regulation 41(2)(b) of GN 733

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details - Available on request
Maureen Erasmus	Neighbour – Buffelspoort	
John-Hendri Keyser	Neighbour – Duikerspan	
Dana Smit	Neighbour – Blaauwpan	
Hannes du Preez	Neighbour – Groenvley	
Andre Uys	Park Manager – Hoopdal & Diamant 228	
Hannes du Preez / Ralph Boettger	Neighbour – Tweeloopfontein	
Kobus Faber	Neighbour - Vygeboomfontein	
Carle Erasmus	Neighbour	

Include proof that the key stakeholder received written notification of the proposed activities as Appendix E2. This proof may include any of the following:

- e-mail delivery reports;
- registered mail receipts;
- courier waybills;
- signed acknowledgements of receipt; and/or
- or any other proof as agreed upon by the competent authority.

3. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
No concerns noted in response to BID	

4. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments received from I&APs and respond to each comment before the Draft BAR 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 the Final BAR as Appendix E3.

5. AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders:

Authority/Organ of State	Contact person (Title, Name and Surname)	Contact details available on request
SANParks – Marakele NP	Mr. Mphadeni Nthangeni	
Waterberg Biosphere Reserve	Mr. Rupert Baber	
Limpopo Department of Economic Development, Environment and Tourism	Ms. MS Mogashoa	

Include proof that the Authorities and Organs of State received written notification of the proposed activities as appendix E4.

In the case of renewable energy projects, Eskom and the SKA Project Office must be included in the list of Organs of State.

6. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for any activities (linear or other) where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that sub-regulation 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. Application for any deviation from the regulations relating to the public participation process must be submitted prior to the commencement of the public participation process.

A list of registered I&APs must be included as appendix E5.

Copies of any correspondence and minutes of any meetings held must be included in Appendix E6.

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014 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. 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

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts 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. This impact assessment must be applied to all the identified alternatives to the activities identified in Section A(2) of this report.

Activity	Impact summary	Significance	Proposed mitigation
Alternative 1 (preferred alternative)			
Construction phase	***Direct impacts:*** Soil pollution due to contaminants.	Low	Cement mixing on impermeable surface. Bunded storage of fuels etc.
	Soil erosion due to the removal of stabilising vegetation during construction.	Low	Site clearing kept to a minimum. Much of the structure is above ground.
	Destruction of vegetation and biodiversity during the construction as a result of the activities of workers, machinery, construction vehicles and equipment.	Low	Presence of ECO and avoidance of tree removal where possible, particularly protected trees.
	Destruction or damage to protected plant species.	Negligible	Protected trees identified and marked.
	Increase in alien plant species as they colonise disturbed soils	Negligible	Implement rehabilitation program and alien removal.
	Faunal disturbance due to the presence of construction personnel on site, and construction noise.	Low	Short duration build with restricted noise.
	Short term employment and business opportunities and the	*medium*	*Positive – construction staff will need to be employed.*

Activity	Impact summary	Significance	Proposed mitigation
	opportunity for skills development and on-site training.		
	Indirect impacts: none		
	Cumulative impacts: Loss of habitat	Low	Footprint is restricted to less than 80 square meters.
	Loss of un-impacted protected area	Low	Small footprint
Operational phase	***Direct impacts:*** Faunal disturbance due to the presence of guests on site.	Low	Facility aims to expose guests to a broader natural heritage and nocturnal wildlife. Noise would compromise this experience.
	Visual impact	Low	Facility is at approximate canopy height and mid slope, so does not break the skyline. Natural colours and materials will be used.
	Waste pollution	Low	Human and domestic waste will be managed through best practice.
	Human-wildlife conflict	Low	Guest inductions and staff training will be needed to minimise wildlife conflict. Particularly around food and food waste management.
	Light pollution	Low	All lighting will be shielded to maintain the guest experience. No high wattage lights will be used.
	Increased tourism and lodge sustainability	*Medium*	*Positive - Private protected areas, such as this, needs to provide investors with returns to maintain sustainability.*
	Increased tourism activities	*Low*	*Positive - Broaden guest appeal and tourism*

Activity	Impact summary	Significance	Proposed mitigation
	Indirect impacts: Loss of sense of place through visual impact or light pollution	Low	Screened lights, use of reflected lights and ensuring naked lights are not visible. Use of natural colours and products and remaining within the tree canopy area
	Cumulative impacts: *Increased tourism through an attractive product offering*	*Low*	*Positive – improved sustainability of the private protected area and lodges.*
Alternative 2			
Construction phase	***Direct impacts:*** As above		
	Indirect impacts: As above		
	Cumulative impacts: As above		
Operational phase	***Direct impacts:*** As above		
	Indirect impacts: As above		
	Cumulative impacts: As above		
Alternative 3			
Construction phase	***Direct impacts:*** As above		
	Indirect impacts: As above		
	Cumulative impacts: As above		
Operational phase	***Direct impacts:*** As above		
	Indirect impacts: As above		
	Cumulative impacts: As above		
No-go option			
	Direct impacts: No stimulation of the local economy, especially the local service delivery industry (transport and security, etc.) No short term employment	Low Low	See Appendix F See Appendix F

Activity	Impact summary	Significance	Proposed mitigation
	No skills development and on-site training.	Low	See Appendix F
	Indirect impacts: Lodge product offering constrained Lodge sustainability reduced	 Low Low	 See Appendix F See Appendix F
	Cumulative impacts: Loss of jobs No long term employment	 Moderate Moderate	 See Appendix F See Appendix F

A complete impact assessment in terms of Regulation 19(3) of GN 733 must be included as Appendix F.

2. 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.

Alternative A (preferred alternative)

The impacts, if properly managed according to the mitigation proposed, will result in mostly negligible to low significance residual impacts (i.e. impacts post mitigation) and no residual impacts of high or very high significance. The only residual impacts of moderate significance during the construction phase are as follows:

- Destruction of natural vegetation ahead of and due to construction activities
- Faunal disturbance due to the presence of construction personnel on site, and noise due to construction activities.

Operational phase impacts (all alternatives) may be similarly mitigated, and residual impacts (i.e. post mitigation) are likely to be also mostly of low to negligible significance. The only residual impacts of moderate significance during the operational phase are as follows:

- Potential disturbance to sense of place if light pollution is not fully mitigated.

Positive impacts include contributions to local economy, job creation and skills transfer in both construction and operation.

Positive value is improved lodge occupancy and thus sustainability through a wider and exciting product offering for tourists.

Alternative B

As above

Alternative C

As above

No-go alternative (compulsory)

The No-Go alternative implies that the planned sleep out deck as proposed will not be developed. In this scenario, there will be no negative impacts relating to the loss of biodiversity of the site and surrounds or the aesthetic integrity of the site and surrounds. However, the No-Go alternative will also imply that the project benefits, or positive impacts, will be lost. Such includes, but not limited to:

Employment opportunities during the construction phase;
Skill development and jobs during the operational phase; and
Improved lodge sustainability potential

The No-Go option further denies any opportunity to further develop The Marakele Park for access by a more diverse market, and specifically tourists looking for niche products. The 20 000 ha Marakele Park is underutilized as a prime tourist destination despite the inherent opportunities of the park.

Bearing in mind that all significant negative impacts can be mitigated and managed, it is therefore recommended that the No-Go Alternative not be supported.

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	NO

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).

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.

Recommendations:

Mitigation procedures detailed in the BAR, Specialist Studies and Environmental Management Programme must be implemented for the duration of the construction phase and operational phase of the project.

Additionally, the following recommendations apply:

ECO is appointed
Site layout be undertaken with management and ECO
All trees protected where possible, especially protected trees.
Leaving natural elements (rocks, logs etc) of the habitat untouched, it will help reduce disturbance to insects, reptiles and other fauna.
Using natural paint colours and products, the platform will not intrude on the natural environment.
A 'locals first' policy should be implemented where possible and local contractors should be appointed especially for low-skilled jobs.

Rehabilitation must be implemented in disturbed areas and an alien plant species management plan must be put in place to prevent the spread of these alien plants in the disturbed soils.		
Is an EMPr attached?	YES	NO

The EMPr must be attached as Appendix G.

The details of the EAP who compiled the BAR and the expertise of the EAP to perform the Basic Assessment process must be included as Appendix H.

If any specialist reports were used during the compilation of this BAR, please attach the declaration of interest for each specialist in Appendix I.

Any other information relevant to this application and not previously included must be attached in Appendix J.

Mette. S. Rossaak

NAME OF EAP

16 January 2017

SIGNATURE OF EAP

DATE

SECTION F: APPENDIXES

The following appendixes must be attached:

Appendix A: Maps

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

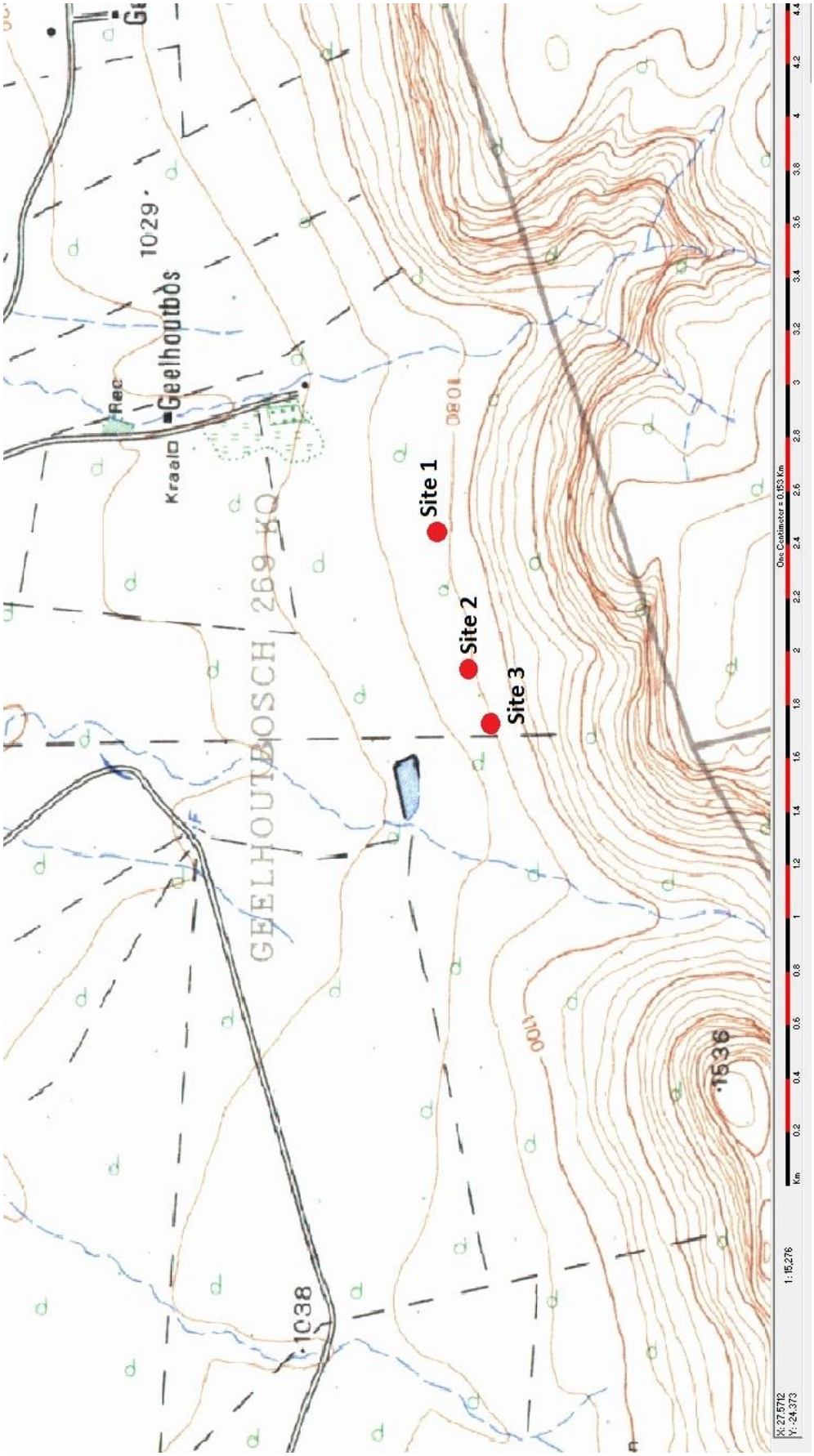
Appendix F: Impact Assessment

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Details of EAP and expertise

Appendix I: Specialist's declaration of interest

Appendix J: Additional Information



Topographic map 2427 BC

Satellite image - source: Google Earth

SITE 1 CARDINAL PHOTOS

North

North-east

SITE 1 CARDINAL PHOTOS

East

South-east

SITE 1 CARDINAL PHOTOS

South

South-west

SITE 1 CARDINAL PHOTOS

West

North-west

SITE 2 CARDINAL PHOTOS

North

North-east

SITE 2 CARDINAL PHOTOS

East

South-east

SITE 2 CARDINAL PHOTOS

South

South-west

SITE 2 CARDINAL PHOTOS

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North-east

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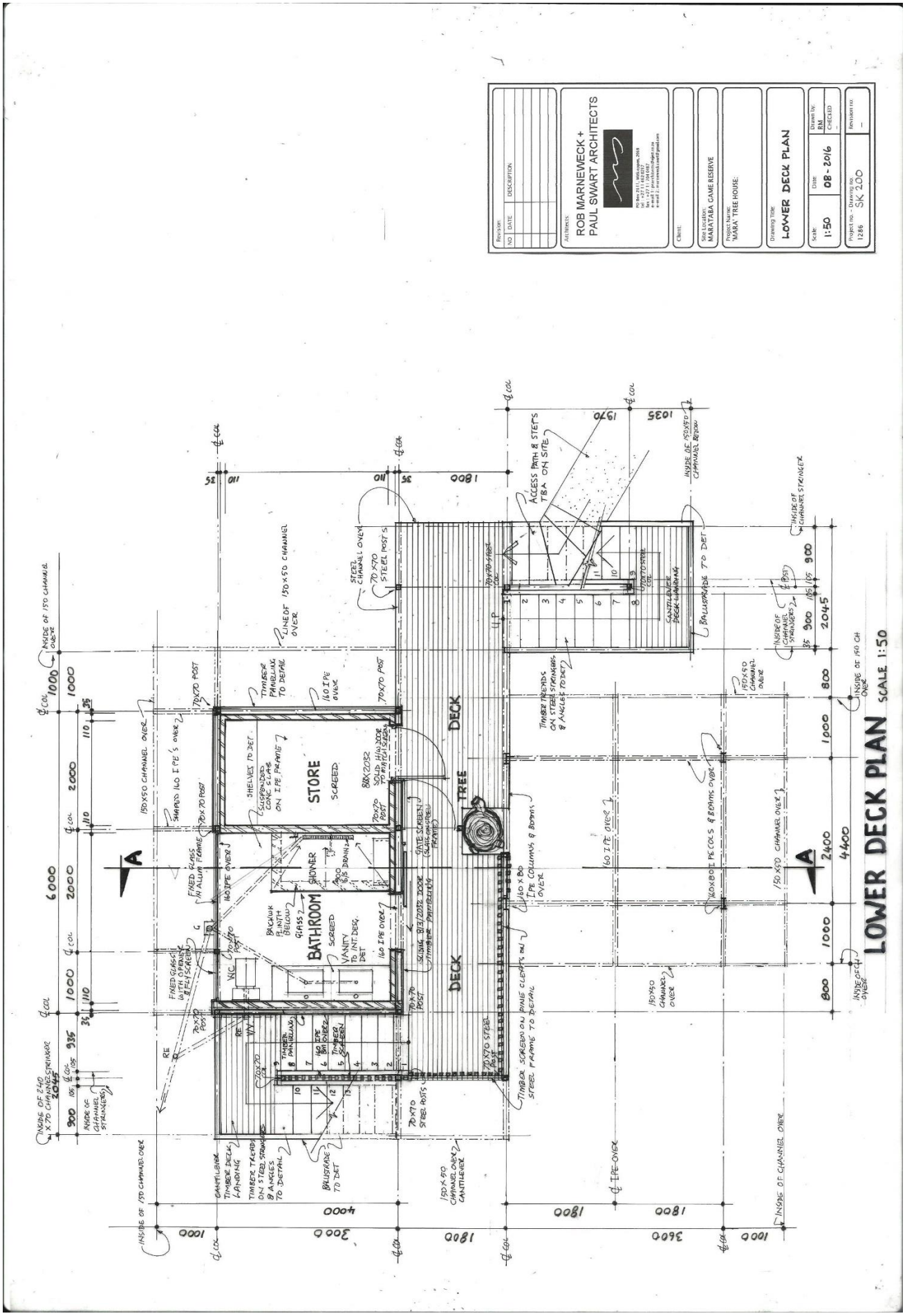
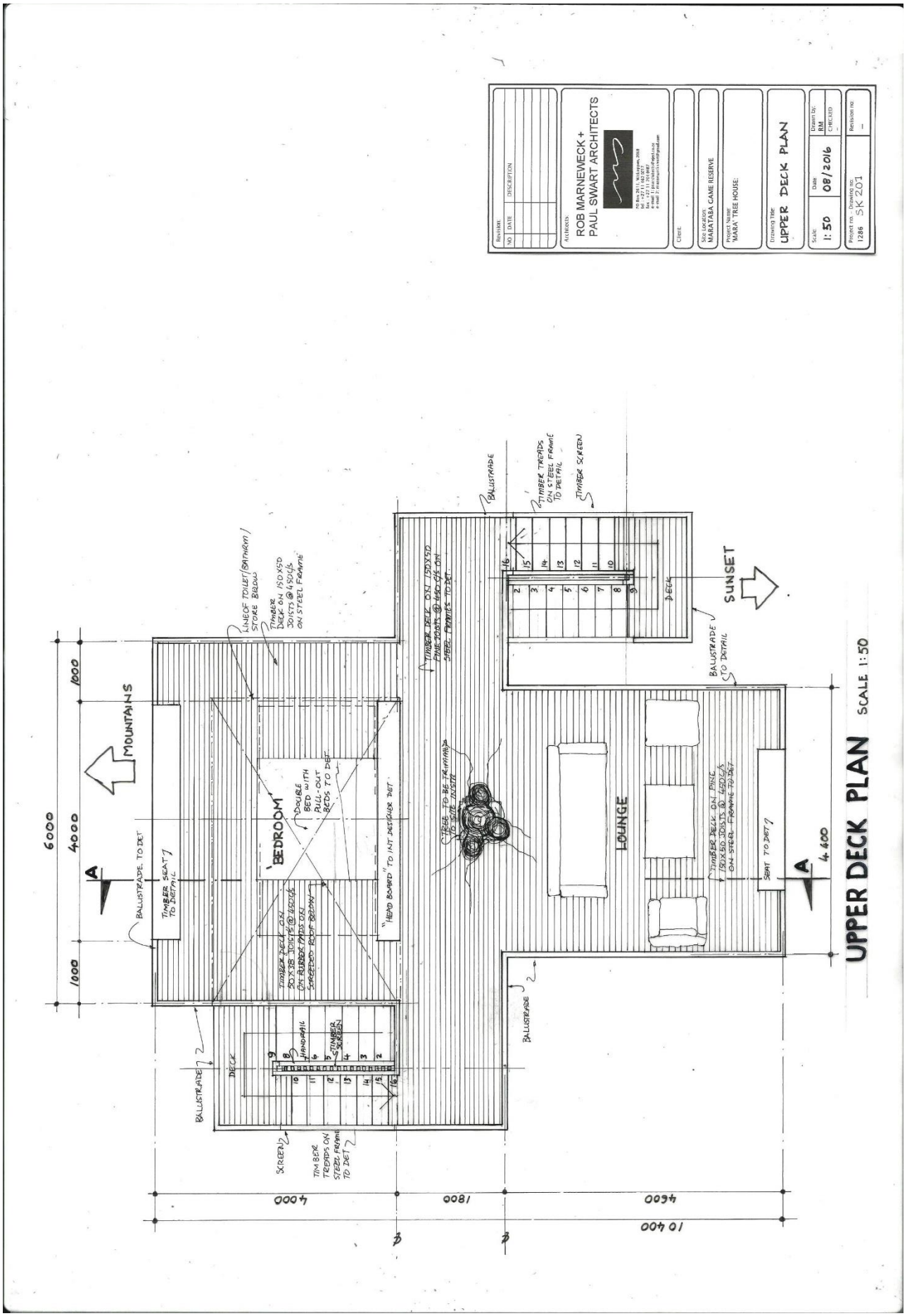
South-west

SITE 3 CARDINAL PHOTOS

West

North-west


LOWER DECK PLAN
SCALE 1:50
Revision
NO DATE DESCRIPTION
Architects
ROB MARNEWECK +
PAUL SWART ARCHITECTS
Client:
Site Location:
MARATABA GAME RESERVE
Project Name:
'MARA' TREE HOUSE:
Drawing Title:
LOWER DECK PLAN
Scale:
1:50
Date:
08-2016
Drawn by:
RM
CHECKED
Project no. - Drawing no.
1286 SK 200
Revision no
-
STORE
SCREED
BATHROOM
SHOWER
VANITY
DECK
TREE
STEEL CHANNEL OVER
70 X 70 STEEL POST
ACCESS PATH & STEPS TBA ON SITE
BALUSTRADE TO DET
TIMBER TREADS ON STEEL STRINGERS & ANGLES TO DET
TIMBER SCREEN ON PIPE CLEATS INCL
STEEL FRAME TO DETAIL
TIMBER DECK LANDING
CANTILEVER
INSIDE OF 150 CHANNEL OVER
INSIDE OF CHANNEL STRINGER


Revision
NO DATE DESCRIPTION
Architects
ROB MARNEWECK +
PAUL SWART ARCHITECTS
Client
Site Location
MARATABA GAME RESERVE
Project Name
MARA TREE HOUSE
Drawing Title
UPPER DECK PLAN
Scale
1:50
Date
08/2016
Drawn by
RM
CHECKED
Project no. Drawing no.
1286 SK 201
Revision no
-
UPPER DECK PLAN SCALE 1:50
MOUNTAINS
SUNSET
BEDROOM
LOUNGE
BALUSTRADE TO DET
TIMBER SEAT TO DETAIL
KNEE OF TOILET/BATHROOM/ STORE BELOW
TIMBER DECK ON 150X50 JOISTS @ 450 C/S ON STEEL FRAME
DOUBLE BED WITH PULL-OUT BEDS TO DET
"HEAD BOARD" TO INT DESIGNER DET
TIMBER DECK ON 150X50 JOISTS @ 450 C/S ON SLOPED ROOF BELOW
TIMBER DECK ON 150X50 JOISTS @ 450 C/S ON STEEL FRAME TO DET
STEEL TO BE TRIMMED TO SUIT INSITU
SEAT TO DET
BALUSTRADE TO DETAIL
TIMBER TREADS ON STEEL FRAME TO DETAIL
TIMBER SCREEN
HANDRAIL
DECK
SCREEN
TIMBER TREADS ON STEEL FRAME TO DET
6000
4000
1000
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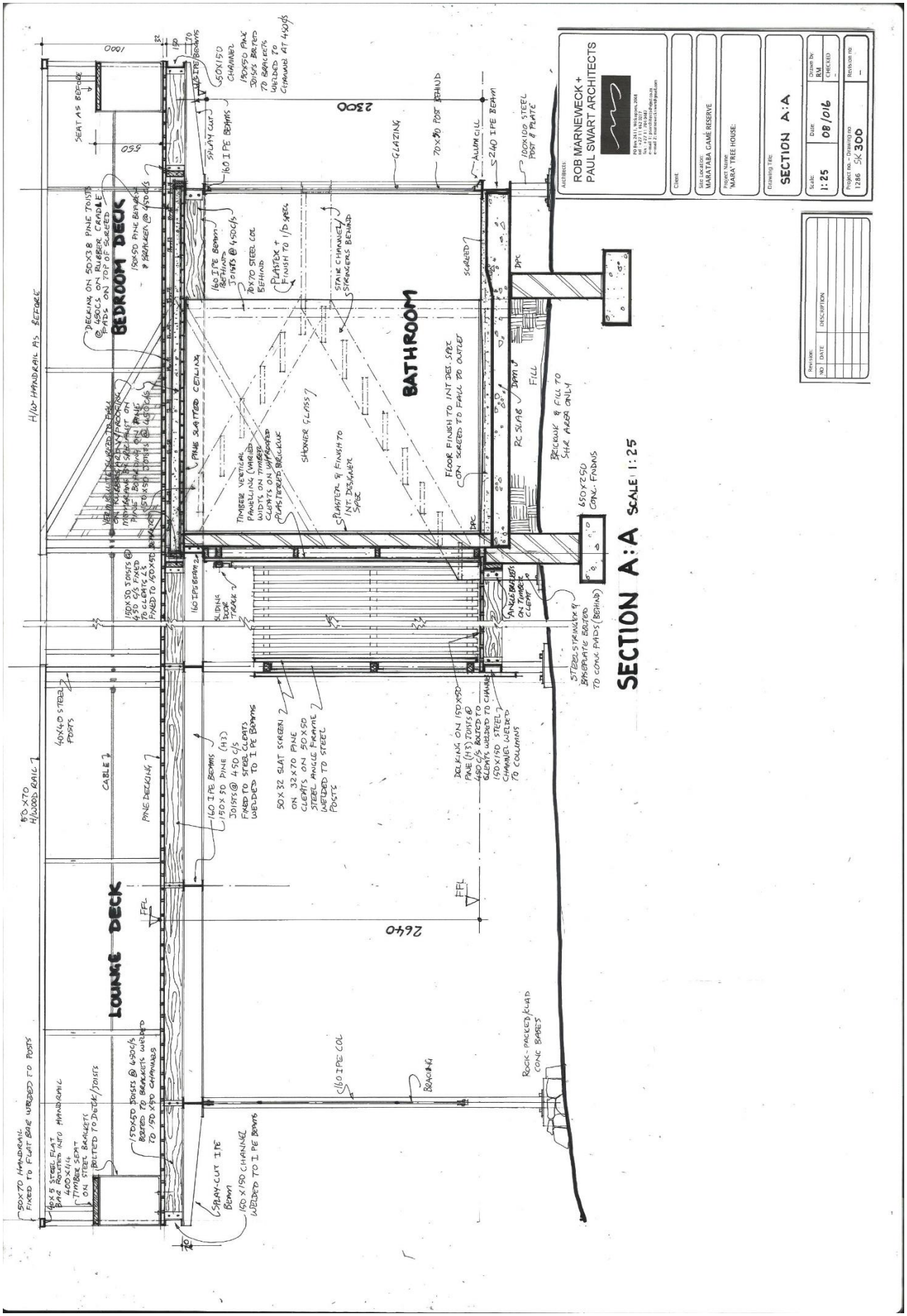
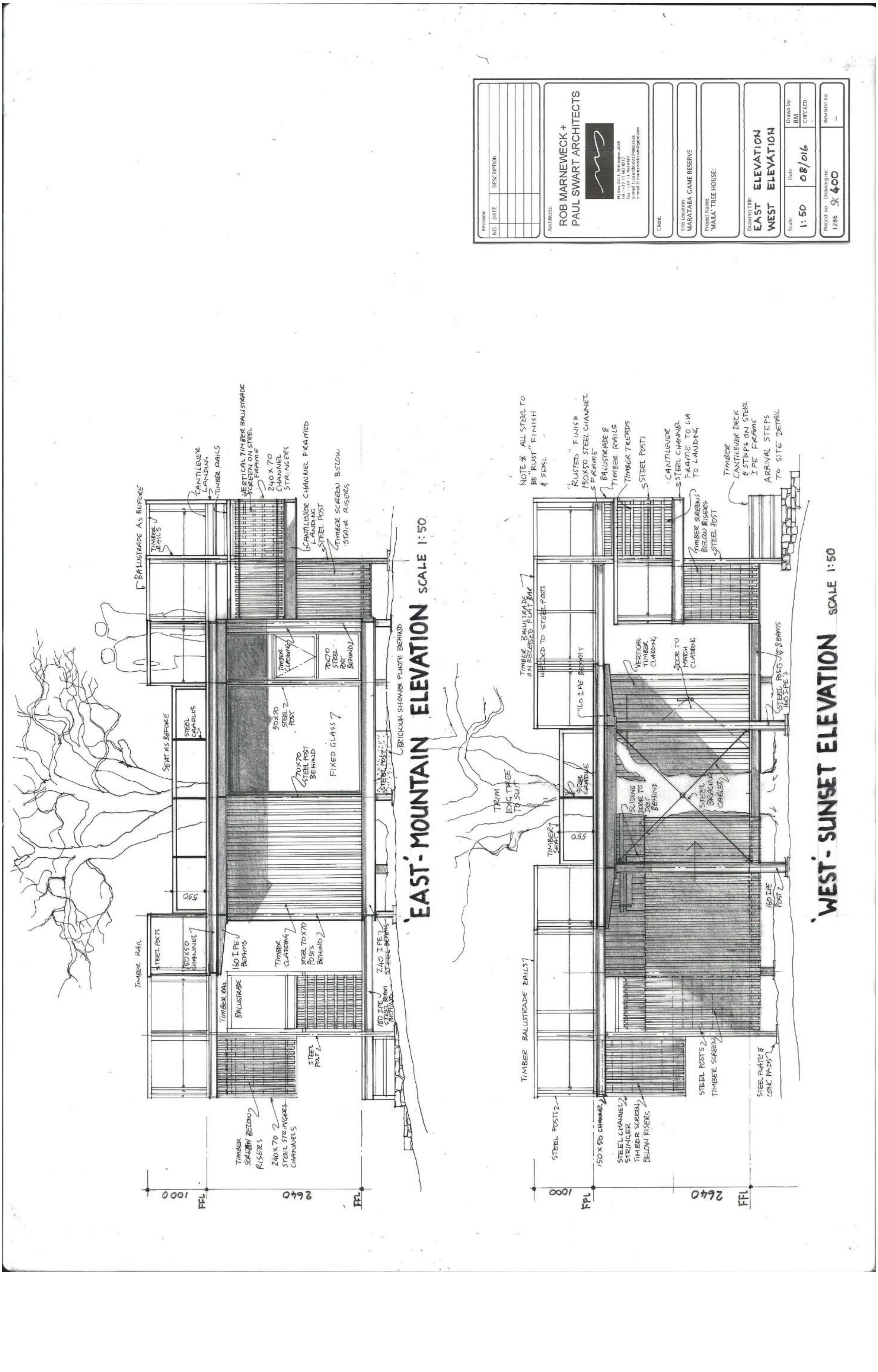
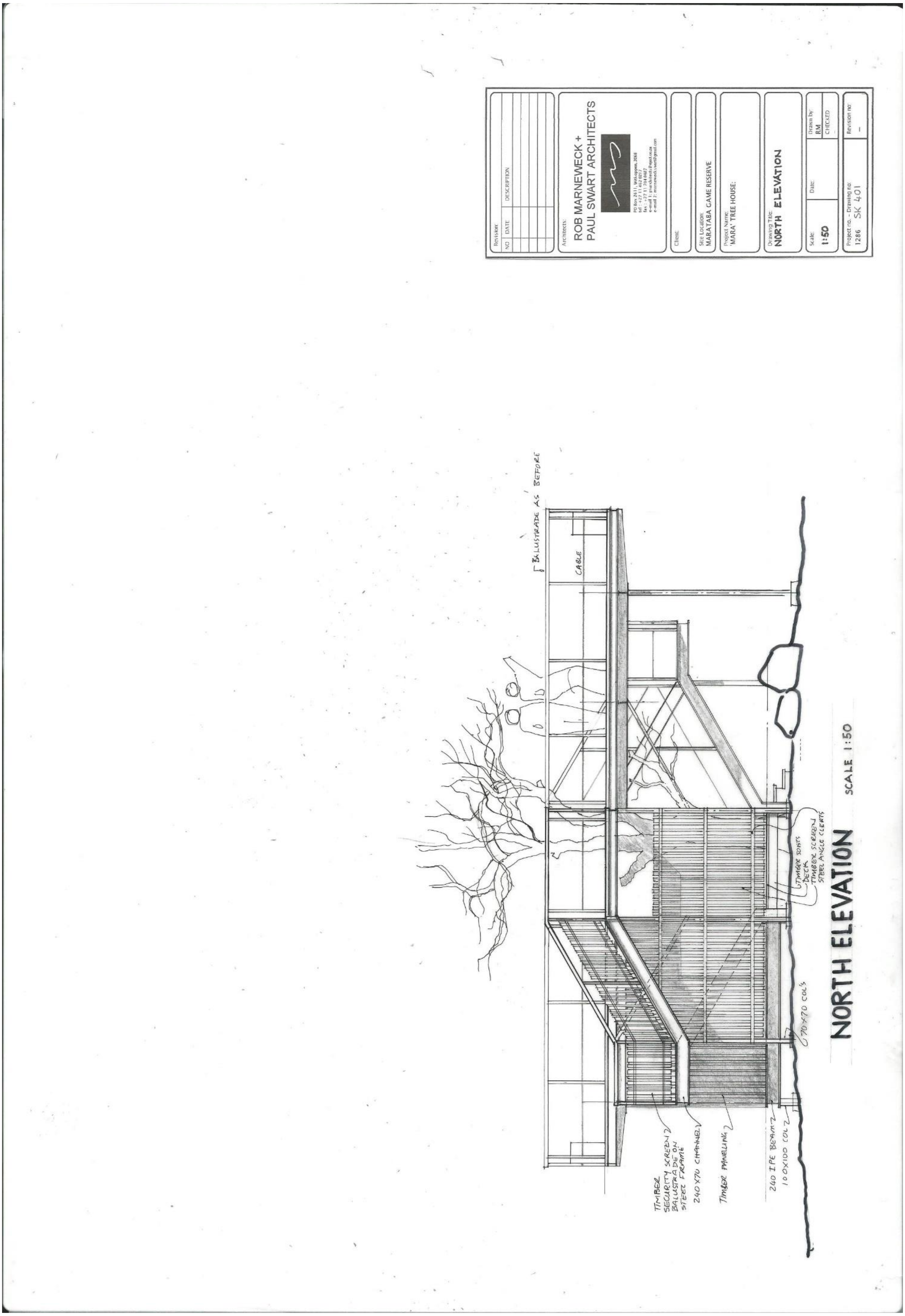
4600
1800
4600
10 400
4 400


SECTION A:A SCALE 1:25
BEDROOM DECK
LOUNGE DECK
BATHROOM
ROB MARNEWECK + PAUL SWART ARCHITECTS
SECTION A:A
MARATABA GAME RESERVE
MARA TREE HOUSE
1:25
08/016
1286 SK 300

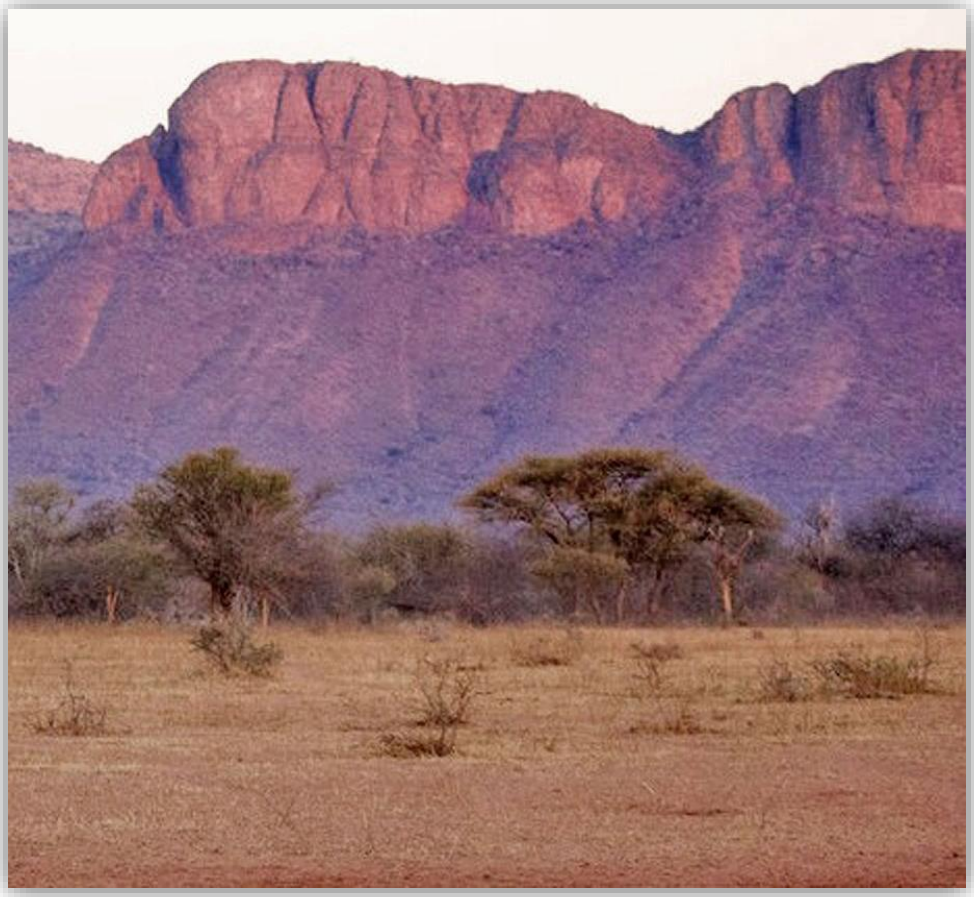

'EAST'- MOUNTAIN ELEVATION SCALE 1:50
'WEST'- SUNSET ELEVATION SCALE 1:50
ROB MARNEWECK +
PAUL SWART ARCHITECTS
MARATABA GAME RESERVE
'MARA' TREE HOUSE
EAST ELEVATION
WEST ELEVATION
1:50


ROB MARNEWECK +
PAUL SWART ARCHITECTS
MARATABA GAME RESERVE
'MARA' TREE HOUSE:
NORTH ELEVATION
1:50
SK 401
1286
BALUSTRADE AS BEFORE
CABLE
TIMBER PANELLING
NORTH ELEVATION
SCALE 1:50

REPORT

ECOLOGICAL IMPACT ASSESSMENT

MARATABA



Compiled by:
Frits van Oudtshoorn
September 2016

TABLE OF CONTENTS

1. INTRODUCTION

More Concession 1 (Pty) Ltd., the operators of the Marataba section of the Marakele National Park, wishes to apply for environmental authorisation for development of a raised platform sleep-out from the Department of Environmental Affairs on portion 2 of the farm Geelhoutbosch 269 KQ, Thabazimbi municipality, Waterberg district, Limpopo Province. Marataba is located about 35 km north of the town of Thabazimbi and 55 km west of Vaalwater.

Three alternative sites have been identified as feasible for development of the platform. The maximum proposed footprint of the development is approximately 150 m^2. The area is on the transition between Waterberg Mountain Bushveld and Western Sandy Bushveld and is believed to be pristine.

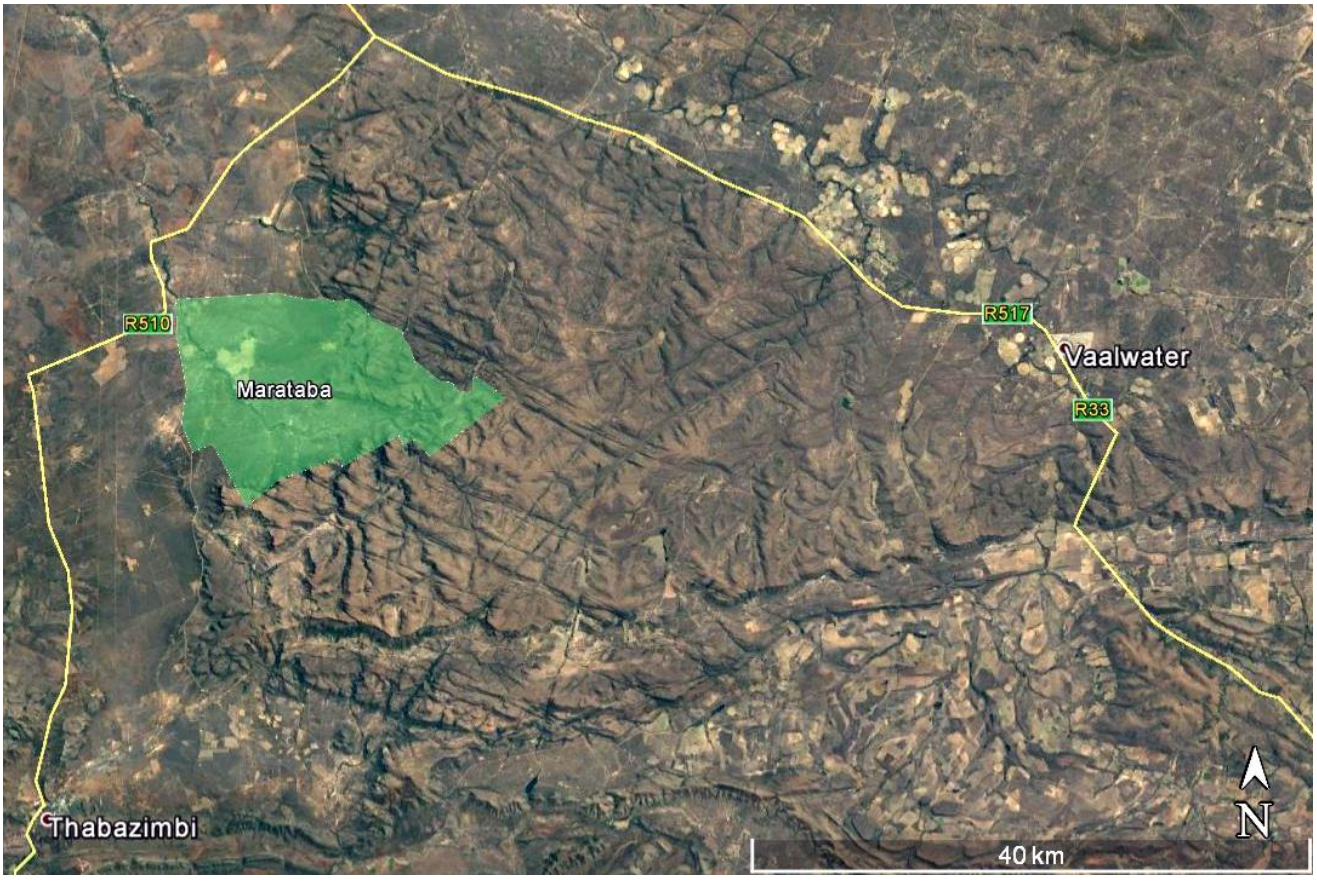


Figure 1: Marataba, a section of Marakele National Park, is located about 35 km north of Thabazimbi and 55 km west of Vaalwater

1.1. Appointment of specialist

Frits van Oudtshoorn from Working on Grass was appointed to provide specialist ecological information on the proposed development on the property. The consulting includes an assessment of the potential impacts on the ecology in the study area as a result of the proposed project. Working on Grass is an independent consultancy and its members have

no association with the proponent and have no secondary interest in developments that might result from this project.

Specialist contact details

Frits van Oudtshoorn
PO Box 2779
Modimolle
0510
Cell: 078 228 0008
Fax: 086 531 6075
E-mail: frits@alut.co.za

Specialist qualifications and expertise

Frits van Oudtshoorn is a rangeland ecologist and environmental management consultant and trainer. He holds a masters degree in nature conservation, specializing in ecological restoration, and is author of the books "*Guide to Grasses of Southern Africa"* and "*Veld management – Principles and practices"*.

Achievements

- Received an award for "outstanding academic achievement" from the Grassland Society of Southern Africa in 2009.
- Awarded the excellence award (first prize) by Limpopo Department of Agriculture during 2007.
- Registered member of the Grassland Society of Southern Africa (GSSA), Botanical Society of South Africa (BOTSOC) and the South African Society of Agricultural Extensionists (SASAE).
- Lectured rangeland management and pasture science two universities.
- Attended 17 national and international scientific conferences and 5 expert workshops. Presented papers and/or posters at six scientific conferences.
- Compiled more than 70 specialist ecological assessments and agricultural potential reports.
- Successfully completed certificate courses on Environmental Impact Assessment (EIA) and Agricultural Resource Identification and Utilisation.
- Facilitated, co-presented and presented numerous short courses in the fields of agriculture and conservation.

2. METHODOLOGY

2.1. Vegetation

A literature review was conducted to investigate previous vegetation classification studies carried out in the region. These studies were investigated before the field assessment. No vegetation classification has been done for Marataba, only for Marakele, which differs much from Marataba. To study broad vegetation patterns within the study area, the work of Mucina and Rutherford (2006) was mainly used.

To describe the conservation status of the vegetation unit occurring within the study area, the method used by the South African Biodiversity Institute (SANBI) and described in Driver *et al.* (2005) was used. This method classifies vegetation types into four categories according to percentage of untransformed natural habitat remaining in each vegetation unit (Figure 2).

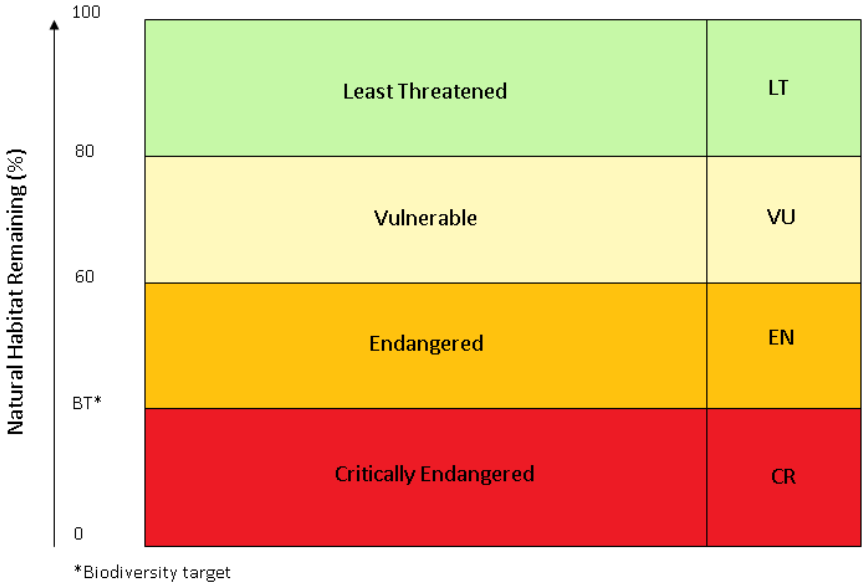


Figure 2: Thresholds used to describe ecosystem status in terms of natural habitat remaining (Driver *et al*, 2005).

A field assessment was conducted during September 2016 to identify common plants, to document rare and protected species and to identify sensitive habitats. A visual assessment was done whereby plant species were listed from most common to least common. Woody species (trees and shrubs), grasses and forbs were recorded separately. Nomenclature for plant taxa were used from The International Plant Names Index (2012).

This above assessment also included a site description where data on terrain unit, slope steepness, geology and soil properties where recorded for each of the three proposed sites.

2.2. Species of special concern

An investigation was also carried out on rare and protected plants that might possibly occur in the region. For this investigation the National Red List of Threatened Plants of South Africa, compiled by the Threatened Species Programme, South African National Biodiversity Institute (SANBI) **(**Raimondo *et al*, 2009), was used. The criteria used for this list is based on the IUCN Red List Criteria (Versions 3.0 & 3.1) (Figure 3). Furthermore the occurrence of protected trees, as listed in the National Forest Act of 1998 (2009 amendment) was investigated.

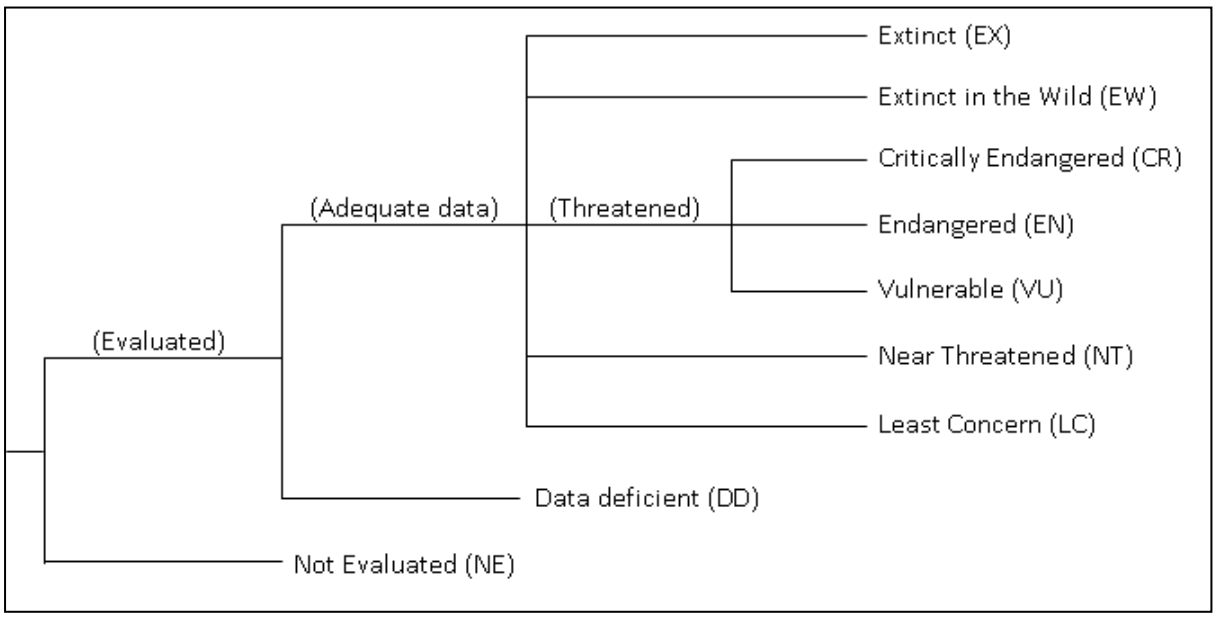


Figure 3: IUCN Criteria for assessing threatened species.

For faunal species of special concern the species listed in the Threatened or Protected Species (TOPS) regulations in terms of the National Environmental Management: Biodiversity Act (Act 10 of 2004) (NEMBA) were used.

2.3. Sensitivity analysis

The sensitivity of the three proposed sites were also analysed by using the following criteria:

1. Conservation status of vegetation type.
2. Presence of, and habitat to, protected plant species.
3. Topography and prominent landscape features (cliffs, steep rocky slopes, etc.).
4. Species richness and between habitat (beta) diversity.
5. Important ecological functions and processes (especially hydrological systems such as wetlands and rivers).
6. General sensitivity to disturbance (e.g. overgrazing, erosion and alien species).

2.4. Impact assessment

For impact assessment the potential impacts on the ecology was assessed by using the NEMA 2006 guidelines and criteria as well as Guideline 5 in support of the Environmental Impact Assessment Regulations, 2006 (DEAT, 2006). To quantify the significance of each impact, values were assigned to criteria ratings. The table below (Table 1) shows the rating and values used during this study.

Table 1: Criteria, criteria ratings and values (in brackets) used in this study to assess the identified impacts on the ecology during the proposed development.

Criteria	Rating (value)
1. Extent of impact	Footprint (1), Site (2), Region (3), National (4), International (5)
2. Duration of impact	Short term (1), Medium term (2), Long term (3), Permanent (4)
3. Intensity of impact	Low (1), Medium (2), High (3)
4. Probability of impact	Improbable (1), Probable (2), Highly probable (3), Definite (4)

2.5. Assumptions, uncertainties and gaps in knowledge

Due to the dry season (September) and consequent lack of actively growing plants, particularly annual plants and winter dormant plants, the plant species lists provided in this report may be incomplete. Issues and concerns raised by Interested and Effected Parties are not dealt with in this report.

2.6. Current land use

The study area is currently used for conservation and forms part of the larger Marakele National park.

3. ENVIRONMENTAL PARAMETERS

3.1. Climate

The Köppen (1931) climatic classification is world-wide recognised as a classic broad climatic classification system. According to this system the climate at the study area, as for most of the lower laying parts of the Limpopo province, falls within the "semi-arid with summer rainfall and hot" climatic zone (code Bsh).

The region has a summer rainfall with dry winters. Rainfall data from the three nearest (now dysfunctional) weather stations, situated on the farms Hoopdal, Klipdrift and Diamant, (10 – 15 km north of study area) indicate that the long-term (about 40 years data) Mean Annual Precipitation (MAP) for the study area is about 545 mm per annum (Table 2) (Erasmus, 1985). The rainfall distribution is showing that months of December, January and February receive the highest average rainfall while June, July and August records less than 10 mm each per month (Table 2 and Figure 4).

Table 2: Monthly and mean annual rainfall figures, in mm, for the three nearest weather stations (Erasmus, 1985).

Weather station → ↓ Month	**Hoopdal**	**Klipdrift**	**Diamant**	**Average**
January	102	114	108	108
February	86	99	88	91
March	63	65	57	62
April	39	48	37	41
May	13	9	11	11
June	7	4	6	6
July	3	3	1	2
August	9	2	2	4
September	11	15	10	12
October	34	36	34	35
November	69	81	71	74
December	92	116	89	99
Total	**528**	**592**	**514**	**545**

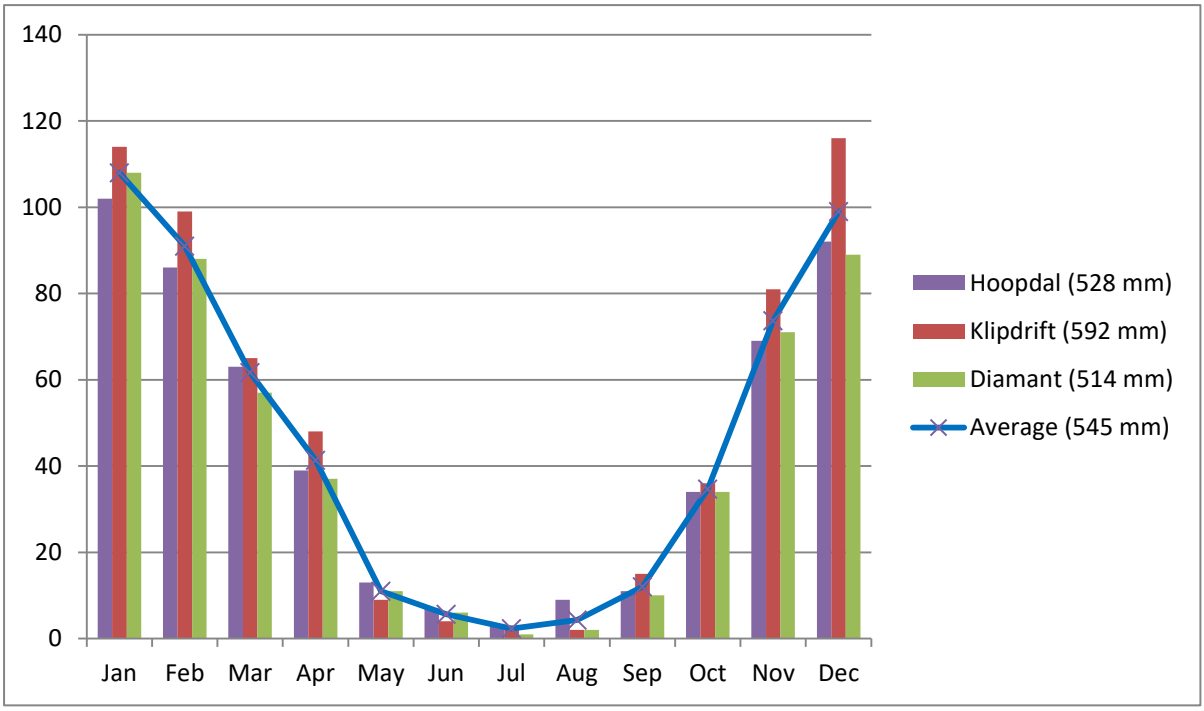


Figure 4: Annual rainfall distribution for the three nearest weather stations and the average. The long-term average rainfall for the property is about 545 mm/annum.

3.2. Position in terrain

All three assessment sites are situated in the midslope position of the terrain with the north facing cliffs of the Waterberg mountain range in close proximity to the south (see terrain sketch below).

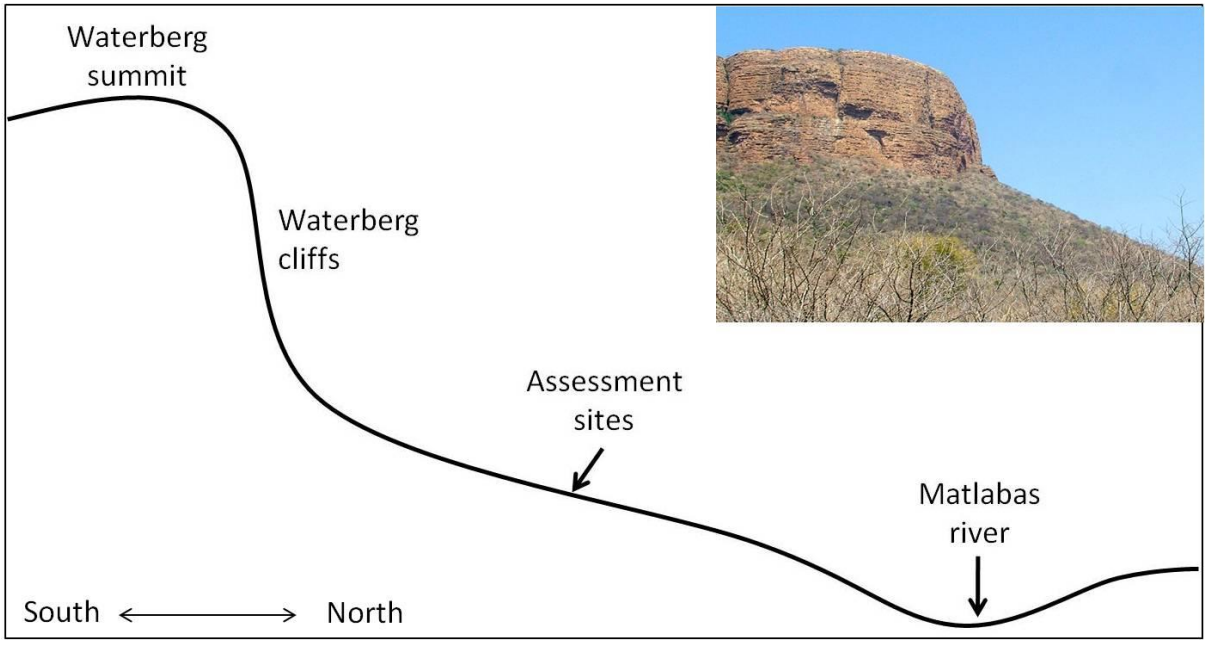


Figure 5: Diagram showing the position of the assessment sites in the terrain.

3.4. Geology and soils

The geology of the broader area, including all three assessment sites, consists of sandstone of the Waterberg group and the Sandriviersberg formation. It consists of typically coarse-grained yellow cross-bedded sandstone.

The soils at the assessment sites are sandy and shallow to very shallow. Exposed sandstone rocks are common at all three sites, particularly site 3.

Figure 6: Exposed sandstone rocks are common at the three assessment sites, particularly site 3.

3.5. Vegetation classification

To broadly describe the vegetation of the study area, reference is made to the classification carried out for South Africa, Lesotho and Swaziland, by Mucina & Rutherford (2006). With this system the region was classified into 435 vegetation types, using a three-level hierarchy of mapping units, namely Biome, Bioregion and Vegetation Unit.

The study area falls within the Savanna Biome of southern Africa and the so-called Central Bushveld Bioregion. This bioregion covers most of the high laying plateau west of the main Drakensberg escarpment and from Magaliesberg in the south to Soutpansberg in the north.

On a smaller scale, the vegetation occurring within the study area is described by Acocks (1953) as well as Low and Rebelo (1996) as Mixed Bushveld. The more recent work by Mucina and Rutherford (2006) describe the vegetation at the study site as the so-called Waterberg Mountain Bushveld (code SVcb 17) (Figure 7). It is situated in close proximity to the Western Sandy Bushveld (code SVcb 16) vegetation type (see map below).

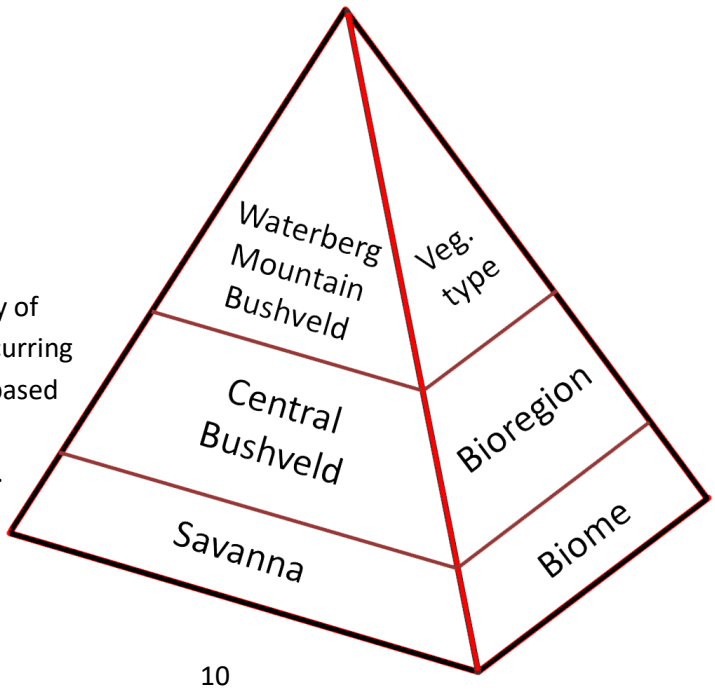


Figure 7: Hierarchy of the vegetation occurring in the study area based on Mucina and Rutherford (2006).

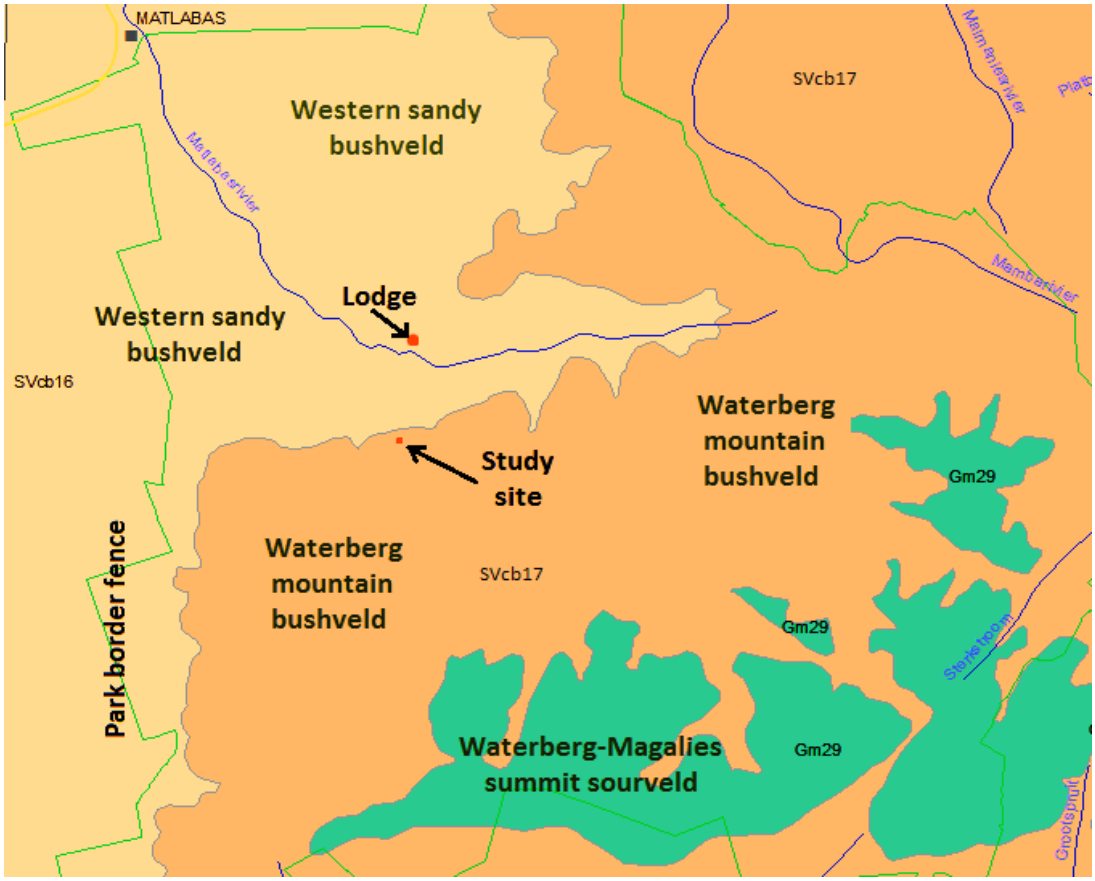


Figure 8: Distribution of vegetation types in the region (Marataba and Marakele) and the location of the study area and Marataba river lodge nearby. The study site falls within the Waterberg mountain bushveld (SVcb17) vegetation type close to the border with the Western sandy bushveld (SVcb16) vegetation type.

The Waterberg mountain bushveld includes the foothills, escarpment and tablelands of the Waterberg mountain range in the Limpopo province (Waterberg district). The vegetation and landscape ranges from rugged mountains dominated by Faurea saligna and Protea caffra sourveld to broadleaved bushveld on rocky slopes and footslopes dominated by Burkea africana en Terminalia sericea on deep sands.

3.5.1. Vegetation type conservation status

The Waterberg Mountain Bushveld vegetation type is currently considered Least Threatened. The conservation target is 24% of the surface area. About 9% is currently statutorily conserved, mainly in the Marakele National Park and Moepel Nature Reserve. More than 3% has been transformed, mainly through cultivation (see table below). Human population is low due to the low agricultural potential. Erosion is low to very low.

Vegetation unit	Ecosystem Status	Protection level	Transformed	Protected	Target
Waterberg Mountain Bushveld	Least threatened	Not protected	± 3%	9%	24%

3.6. On site vegetation

Three possible sites were identified by Marataba management for the construction of the proposed treehouse platform. These sites are 347 m and 175 m spaced from each other along a current management road (see image below). The position of each site is a follows;

Site 1: S 24° 22.378' E 27° 34.289' E
Site 2: S 24° 22.416' E 27° 34.186' E
Site 3: S 24° 22.437' E 27° 33.982' E

Figure 9: The position of the three proposed development sites.

A vegetation survey and site description was done at each site to identify the plant species and other environmental parameters within a 30 m radius from the centre of the site. Data from the site description shows that all three sites are very similar in terms of geology, soil, slope and level of erosion. The table below gives the description.

Table 3: Environmental parameters for each site.

↓Parameter / Site→	Site 1	Site 2	Site 3
Terrain unit	Midslope	Midslope	Midslope
Slope	Medium	Medium	Medium to steep
Soil texture	Sandy loam	Sandy	Sandy loam
Soil depth	Shallow to gravelly	Shallow to gravelly	Rocky
Geology	Sandstone	Sandstone	Sandstone
State of soil surface	No erosion	No erosion	No erosion
Current land use	Conservation	Conservation	Conservation
Vegetation type code	SVcb17	SVcb17	SVcb17

There is, similar to the environmental parameters listed above, little difference in vegetation between the sites. This is due to the close proximity of the sites and the fact that all three occur in the same vegetation type. No trees taller than 2.5 m occurs at any site, except for one large Weeping boer-bean tree (*Schotia brachypetala*) located in the centre of site 1.

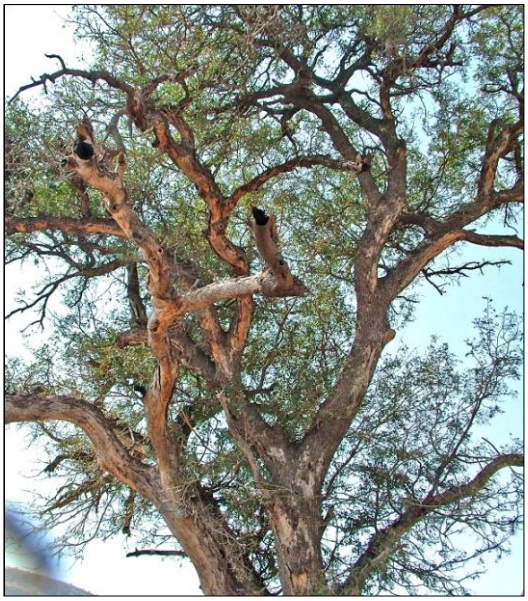


Figure 10: The only large tree is a Weeping boer-bean tree located in the centre of site 1.

At all three sites Sickle bush (*Dichrostachys cinerea*) is the most common woody species. Thus shrub can potentially causes heavy bush encroachment. The current level of bush encroachment at the three sites is estimated at medium. The table below shows the plant species identified at eat each site during the assessment. The plants are listed from most common to least common. No alien species were recorded.

Table 4: Plant species identified at each proposed site.

Site 1 (26 species total)		
Trees (14 species)	**Grasses (7 species)**	**Forbs (5 species)**
Dichrostachys cinerea	*Eragrostis trichophora*	*Sida cordifolia*
Senegalia burkei	*Panicum maximum*	*Laggera decurrens*
Flueggea virosa	*Setaria verticilata*	*Solanum incanum*
Vachellia robusta	*Enteropogon macrostachyus*	*Plumbago zeylanica*
Grewia bicolor	*Aristida adscensionis*	*Alternanthera pungens*
Grewia occidentalis	*Urochloa mosambicensis*	
Schotia brachypetala	*Eragrostis aspera*	
Peltophorum africanum		
*Combretum imberbe**		
Vachellia tortilis		
Combretum zeyheri		
Euclea undulata		
Ziziphus mucronata		
Pappea capensis		

Site 2 (19 species)		
Trees (10 species)	**Grasses** (7 species)	**Forbs** (2 species)
Dichrostachys cinerea	*Enteropogon macrostachyus*	*Sida cordifolia*
Grewia bicolor	*Eragrostis aspera*	*Solanum panduriforme*
Combretum molle	*Brachiaria deflexa*	
Grewia occidentalis	*Leptocarydion vulpiastrum*	
Schotia brachypetala	*Aristida adscensionis*	
Ziziphus mucronata	*Panicum maximum*	
Senegalia burkei	*Digitaria velutina*	
Combretum apiculatum		
Pappea capensis		
Searcia leptodyctea		
Site 3 (21 species)		
Trees (8 species)	**Grasses** (9 species)	**Forbs** (4 species)
Dichrostachys cinerea	*Cynodon dactylon*	*Plumbago zeylanica*
Euclea undulata	*Eragrostis trichophora*	*Sida cordifolia*
Euclea natalensis	*Panicum maximum*	*Schkuhria pinnata*
Vachellia tortilis	*Enteropogon macrostachyus*	*Alternanthera pungens*
Grewia bicolor	*Aristida adscensionis*	
Gymnosporia buxifolia	*Enneapogon cenchroides*	
Flueggea virosa	*Urochloa mosambicensis*	
Ziziphus mucronata	*Chloris virgata*	
	Eragrostis cilianensis	

* protected species

3.7. Ecological functioning

All three sites are in a good ecological functional order. Tracts and faeces of various antelope, and even leopard, were observed at all three sites. Vegetation is well utilised by grazers and browsers alike. No to slight levels of soil erosion were recorded. The ecosystem is however slightly impaired by moderate levels of bush encroachment (see images below). The ecological functioning can be rated as below;

Ecological parameters:

Ecosystem function: High

Conservation value: Medium

(Vegetation type "Least Threatened" status)

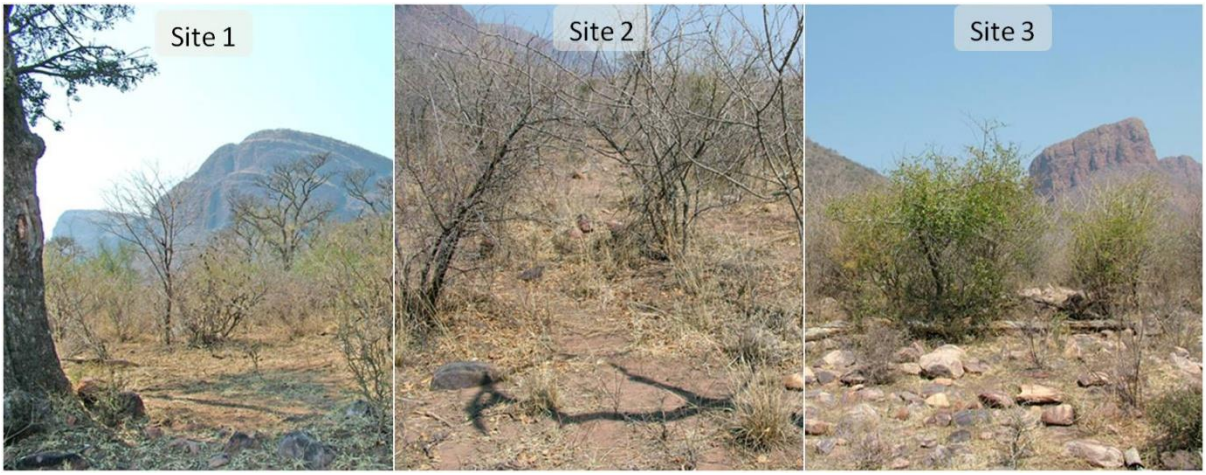


Figure 11: Images taken from the centre of each site showing moderate levels of bush encroachment by Sickle bush (*Dichrostachys cinerea*).

3.8. Species of special concern

3.8.1. Plant species of special concern

A list of 15 protected plant species that might possibly occur within the wider region have been compiled and investigated (Table 5). None of these species were recorded to occur within the proposed sites under investigation. Furthermore 5 protected tree species that commonly occur within the boundaries of the Marataba section of Marakele National Park have been identified (Table 6). Several small specimens of one of these species, namely Leadwood (*Combretum imberbe*), have been recorded at site one. These specimens do not occur within the footprint area. It is however strongly advised that these specimens are tagged and protected during the construction phase.

This study makes the assumption that the faunal habitats of the study area are dependent on the natural vegetation and that careful consideration of the proposed mitigation measures will assist in protecting the natural vegetation and consequently the fauna as well.

Table 5: List of threatened plant species that may possibly occur within the broader study area and the wider region (Raimondo *et al,* 2009). None of these species were however recorded during the assessment.

Genus	Species	Family	Conservation status	Distribution	Habitat
Agapanthus	*coddii*	AGAPANTHACEAE	Rare	Western Waterberg.	Montane grassland, found in permanently moist seepage areas below cliffs.
Brachystelma	*gerrardii*	APOCYNACEAE	Endangered	KwaZulu-Natal, Waterberg area and Swaziland.	Open grassland. 400-1800 m.
Brachystelma	*hirtellum*	APOCYNACEAE	Near threatened	Waterberg, Bela Bels to Mookgopong and Zimbabwe.	Bushveld.
Brachystelma	*inconspicuum*	APOCYNACEAE	Rare	Waterberg.	Open grassy areas with well drained grey-brown sandy loam derived from the Waterberg quartzite & conglomorates on gentle slopes.
Combretum	*petrophilum*	COMBRETACEAE	Rare	Waterberg, Strydpoort Mountains, Loskop Dam and Mpumalanga Drakensberg.	Rocky outcrops in mountain bushveld.
Crassula	*cymbiformis*	CRASSULACEAE	Critically rare	Waterberg east of Thabazimbi.	Savanna, found in shallow soils among rocks.
Cyphostemma	*hardyi*	VITACEAE	Vulnerable	Western Waterberg	Grows in the shade of trees among boulders on rocky slopes
Dicoma	*prostrata*	ASTERACEAE	Insufficient data	Waterberg.	Rocky slopes in open woodland.
Encephalartos	*eugene-maraisii*	ZAMIACEAE	Endangered	Waterberg	Sandstone hills and rocky ridges in open grassland and savanna
Eulalia	*aurea*	POACEAE	Near Threatened	Waterberg in Limpopo; also widespread in Southern and East Africa from Botswana to Kenya.	In water, along rivers and in occassionally inudated soils.
Eulophia	*coddii*	ORCHIDACEAE	Vulnerable	Heidelberg, Magaliesberg and Waterberg.	Steep slopes, growing on sandstone-derived soils in grassland or bushveld.
Euphorbia	*waterbergensis*	EUPHORBIACEAE	Rare	Northern Waterberg between Lephalale, Marongwe and the Lephalala River	Quartzite ridges and outcrops, mixed bushveld. 900-1100 m.
Freylinia	*tropica*	SCROPHULARIACEAE	Rare	Waterberg and Chimanimani Mountains (Zimbabwe).	Riverbanks and stream sides. 1800 m.
Ledebouria	*lepida*	HYACINTHACEAE	Rare	Palala district, eastern Waterberg.	Waterberg Mountain Bushveld.
Vachellia	*erioloba*	FABACEAE	Least Concern	Widespread in the drier areas of the northern provinces of South Africa, also Namibia, Botswana, Zimbabwe, southern Angola and southwestern Zambia.	Savanna, semi-desert and desert areas, deep sandy soils and along drainage lines in very arid areas, sometimes in rocky outcrops

Table 6: List of protected tree species under the National Forest Act (1998) observed on the property. One of these species, Leadwood (*Combretum imberbe*), were recorded at site 1 outside the footprint area.

Botanical name	English common name	National tree no.
Boscia albitrunca	Shepherd's tree	122
Combretum imberbe	Leadwood	539
Sclerocarya birrea subsp.*caffra*	Marula	360
*Securidaca longependuncula*ta	Violet tree	303
Vachellia erioloba	Camel thorn	168

3.8.2. Animal species of special concern

A list of animal species of special concern that might occur within the area was compiled from the "Publication of Lists of Critically Endangered, Endangered, Vulnerable and Protected Species, National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)" (Table 7). This is a rather extensive list due to the property being part of the Marakele National Park and a consequently increased ecological integrity. None of these species were observed in or near any of the three sites during the assessment. Tracts of Leopard (*Panthera pardus*) were however observed in or near all three sites.

Table 7: List of threatened and protected species, based on the TOPS regulations, which may occur in the broader region.

THREATENED OR PROTECTED SPECIES	
Critically Endangered Species	
None	
Endangered Species	
Birds	
Gyps africanus	White-backed Vulture
Gyps coprotheres	Cape Vulture
Torgos tracheliotus	Lappet-faced Vulture
Mammals	
Damaliscus lunatus	Tsessebe
Diceros bicornis	Black Rhinoceros
Lycaon pictus	African Wild Dog

Vulnerable Species	
Birds	
Trigonoceps occipitalis	White-headed Vulture
Aquila rapax	Tawny Eagle
Ardeotis kori	Kori Bustard
Falco peregrinus	Peregrine Falcon
Polemaetus bellicosus	Martial Eagle
Mammals	
Manis temminckii	Pangolin
Panthera leo	Lion
Panthera pardus	Leopard
Acinonyx jubatus	Cheetah
Other protected Species	
Mammals	
Atelerix frontalis	South African Hedgehog
Ceratotherium simum	White Rhinoceros
Crocuta crocuta	Spotted Hyaena
Parahyaena brunnea	Brown Hyaena
Leptailurus serval	Serval
Loxodonta africana	African elephant
Mellivora capensis	Honey Badger
Reptiles	
Python natalensis	African Rock Python

3.9. Sensitivity analysis

A sensitivity analysis was carried out for the three proposed sites (Table 8). The sensitivity of the three sites, for the particular impact (construction of raised platform) was found to be low and more or less equal. The main reason for this equal sensitivity rating is the similar environmental conditions found at each site. Below are the results from the sensitivity analysis, including comments on the rating of each criterion.

Table 8: Sensitivity analysis for the three proposed sites.
The higher the rating, in percentage, the higher the sensitivity.

Criteria	Site 1	Site 2	Site 3	Comment
Conservation status	30%	30%	30%	All three sites fall within the same vegetation type with a ”least threatened” conservation status
Presence of, or habitat to, Red Data and protected species	50%	20%	20%	Young specimens of one protected tree were found outside the footprint area of site 1. No other protected plants were recorded.
Topography and prominent landscape features (cliffs, steep rocky slopes, etc.)	10%	10%	20%	No prominent landscape features present. Site 3 has a slightly steeper slope with a higher rock cover than the other sites.
Species richness and between habitat (beta) diversity	52%	38%	42%	All three sites has an increased botanical diversity due to their proximity to the ecotone between two vegetation types. Site 1 however has a slightly higher diversity than the other two sites. This richness is somewhat hampered by bush encroachment.
Important ecological functions and processes (especially hydrological features such as wetlands and rivers)	10%	10%	25%	None of the sites have particular important ecological significance. Site 3 however, has an increased soil fertility (hotspot) and features increased grazer concentrations.
Sensitivity to disturbance (overgrazing, erosion, alien species, etc.)	10%	20%	10%	Higher levels of bush encroachment occurs at site 2. All three sites show no to low levels of erosion. No alien invasive species were recorded.
Average	**27%**	**21.3%**	**24.5%**	
	Site 1	**Site 2**	**Site 3**	

4. IMPACT ASSESSMENT

4.1. Impact identification

During the construction and operation of the proposed tree-house development, several activities will have a predicted impact on the ecology in the immediate area. These activities, and their associated impacts, are listed below for the construction (A) and operational (B) phases separately.

A. Impacts on the ecology during the construction phase of the proposed development:

1. Habitat loss on the infrastructure footprint during the construction phase.
2. Habitat loss caused by the establishment and use of access roads.
3. Vegetation and soil disturbance around construction sites due to general construction activities.
4. Potential soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.
5. Potential vegetation and habitat disturbance due to accidental introduction of alien species.
6. Potential vegetation and ecological disturbance due to inadequate waste disposal and general littering.
7. Ecological disturbance due to increased dust pollution during construction phase.
8. Vegetation damage and ecological disturbance due to increased risk of veld fires during construction.
9. Ecological disturbance due to increased noise pollution during construction.

B. Impacts on the ecology during the Operational phase of the proposed development:

1. Soil and vegetation disturbance caused by the maintenance and use of access roads and foot paths.
2. Vegetation and habitat disturbance due to inadequate waste disposal and general littering.
3. Ecological disturbance due to increase in noise pollution.
4. Regional vegetation and ecological destruction and disturbance due to increased risk of veld fires due to human activities.
5. Ecological disturbance due to the obstruction of animal movement.

4.2. Impact prediction

The significance of the above identified impacts on the local ecology varies depending on the nature of the impact (and mitigation measures followed). These impacts are analysed rated below according to the extent, duration, intensity and probability of each impact. To further quantify the predicted significance of each impact a value is given to each criteria rating (Table 9). Different impacts on the ecology will be experienced during the

construction and operational phases and these two phases are therefore analysed separately.

Table 9: Predicted ecological impact significance for the proposed platform development during the construction (A) and operational (B) phases respectively. Impacts are arranged from highest to lowest significance (see Significance Score).

Impact	Extent	Duration	Intensity	Probability	Significance Score
A) IMPACTS DURING THE CONSTRUCTION PHASE:					
1. Habitat loss on the infrastructure footprint during construction phase.	Footprint 1	Permanent 4	High 3	Definite 4	**12**
2. Habitat loss and soil disturbance caused by the establishment and use of access roads.	Site 2	Long term 3	High 3	Definite 4	**12**
3. Vegetation and soil disturbance around construction sites due to general construction activities.	Site 2	Medium term 2	Medium 2	Definite 4	**10**
4. Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.	Site 2	Long term 3	Medium 2	Probable 2	**9**
5. Vegetation and habitat disturbance due to the accidental introduction of alien species.	Regional 3	Long term 3	Medium 2	Improbable 1	**9**
6. Vegetation and Ecological disturbance due to insufficient construction waste disposal and littering.	Site 2	Long term 3	Medium/High 2.5	Improbable 1	**8.5**
7. Vegetation damage due to increased risk of veld fires during construction.	Regional 3	Medium term 2	Medium 2	Improbable 1	**8**
8. Ecological disturbance due to increased noise pollution during construction.	Regional 3	Short term 1	Medium to Low 1.5	Probable 2	**7.5**
9. Ecological disturbance due to increased dust during construction phase.	Regional 3	Short term 1	Low 1	Probable 2	**7**
B) IMPACTS DURING THE OPERATIONAL PHASE:					
1. Soil disturbance caused by the maintenance and use of access roads and foot paths.	Site 2	Long term 3	Medium 2	Definite 4	**11**
2. Ecological disturbance due to the obstruction of animal movement.	Site 2	Permanent 4	Low 1	Definite 4	**11**
3. Ecological disturbance through potential unlawful harvesting of firewood.	Regional 3	Long term 3	Medium 2	Probable 2	**10**
4. Vegetation and habitat	Site/Regional	Long term	Low/Medium	Probable/Improbable	**8.5**

disturbance due to inadequate waste disposal and general littering.	2.5	3	1.5	1.5	
5. Ecological disturbance due to increase in noise pollution.	Site/regional 2.5	Long term 3	Low 1	Probable 2	**8.5**
6. Regional vegetation and ecological destruction and disturbance due to increased risk of veld fires due to human activities.	Regional 3	Short term 1	Medium 2	Probable/improbable 1.5	**7.5**

4.2.1. Impact significance

The most significant predicted impact on the ecology during the construction phase is the vegetation and habitat destruction on the infrastructure footprint of the platform during the construction phase of the proposed project (Table 9). The second most significant predicted impact during the construction phase is vegetation removal and soil disturbance caused by the establishment and use of access roads. During the operational phase the most significant predicted impact is also expected to be through the use and maintenance of access roads and paths. During this phase the movement of animals are also hampered, although the intensity of the impact is low.

4.3. Mitigation of predicted impacts

The significance of each of the impacts analysed in Table 9 can be reduced depending on the use of certain mitigation practices during the construction and operational phases. Below (Table 10) follows a list of proposed mitigation measures that can be used. Each set of mitigation measures is rated according to their influence on the significance of the impact before and after the mitigation measures have been applied. It is important that all stakeholders involved also take own initiative in order to minimise the effect of the construction and operation of the development on the ecology as a whole.

Table 10: Recommended mitigation measures including significance rating for before and after mitigation for the Construction phase (A) and Operational phase (B).

Impact	Significance before	Mitigation Measures	Significance after
MITIGATION DURING THE CONSTRUCTION PHASE:			
1. Habitat loss on all infrastructure footprints during construction phase.	High	1. Prevent construction in or near sensitive vegetation zones. 2. Retain and protect all large indigenous trees during planning and construction phases. 3. Level out and terrace parking areas to control soil erosion.	Medium
2. Habitat loss and soil disturbance caused by the establishment and use of access roads.	High	1. Restrict construction of access roads by utilizing existing roads. 2. Do proper planning of access roads in order to prevent soil erosion.	Medium

		3. Use proper road construction methods for good water drainage. 4. Construct adequate mitre drains to divert runoff rainwater from roads. 5. Rehabilitate all temporarily access roads after construction phase. 6. Avoid sensitive areas (drainage lines, steep slopes, erodible soil) as far as possible during road layout planning.	
3. Vegetation and soil disturbance around construction sites due to general construction activities.	Medium	1. Minimise removal of indigenous vegetation, particularly trees and shrubs taller than 2 m, around footprints during both phases as far as possible. 2. Minimise topsoil disturbance as far as possible. 3. Level and landscape disturbed topsoil areas to facilitate plant succession and restoration. 4. Where construction is on slopes, erosion control measures should be included in disturbed areas. These may include rock contour lines as rocks are plentiful on site. 5. Clearly mark trees that should not be removed before construction begins.	Low
4. Soil contamination, vegetation loss and vegetation disturbance due to fuel and chemical spills.	Medium	1. Employ on site personnel responsible for preventing and controlling potential soil pollution through fuel and chemical leaks and spills. 2. Make sure construction vehicles do not leak oil and fuel. 3. Have equipment ready to deal with soil pollution and general littering.	Low
5. Vegetation and habitat disturbance due to the accidental introduction of alien species.	Low	1. Promote awareness of all personnel. 2. After construction monitoring and control of alien weeds and invaders through hand removal, slashing (annuals) or chemical control (perennials) is important. 3. Strictly only plant indigenous plants during establishment of gardens. 4. Control spread of Thatching grass if thatch roofs are to be used.	Very low
6. Vegetation and ecological disturbance due to unsatisfactory construction waste disposal and littering.	Medium	1. Conduct awareness among construction personnel to adequately dispose of all waste material at appropriate disposal sites. 2. Employ personnel on site responsible for preventing and controlling of waste disposal.	Very low
7. Vegetation damage due to increased risk of veld fires during construction.	Medium	1. Construct fire brakes on the perimeter of construction site. 2. Conduct awareness on veld fire risks and prevention among personnel. 3. Have fire fighting equipment at hand. 4. Prevent open fires, especially on high fire risk days.	Low to Zero
8. Ecological disturbance due to increase noise pollution during construction.	Low	1. Cultivate awareness among construction personnel that the site is located within a national park and to limit excessive and unnecessary noise where possible.	Low to Zero
9. Ecological disturbance due to increased dust during construction phase.	Medium	1. Cultivate awareness among personnel to limit excessive and unnecessary dust. 2. Keep access roads moist during construction.	Low

B) MITIGATION DURING THE OPERATIONAL PHASE:			
1. Soil disturbance caused by the maintenance and use of access roads.	High	1. Upgrade access road to tourist road (class A) or improved management road (class B) criteria. 2. Continually maintain mitre drains. 3. Maintain elevated road surface structure for proper drainage during rainy season. 4. Continually rehabilitate erosion damage along roads.	Low
2. Ecological disturbance due to the obstruction of animal movement.	Low	1. Limit human activities to as close as possible to the residence. 2. Limit noise pollution as far as possible.	
3. Ecological disturbance through potential harvesting of firewood.	Medium	1. Strictly disallow the harvesting of firewood by residents around the site. 2. Provide or have firewood available from other sources. 3. Monitor the likely use of on-site firewood and act accordingly.	Zero
4. Vegetation and habitat disturbance due to inadequate waste disposal and general littering.	High	1. Have a proper waste disposal system in operation for the development. 2. Have adequate waste disposal facilities available on site. 3. Conduct awareness among owners on the correct waste disposal rules and regulations for the residence.	Zero
5. Ecological disturbance due to increase in noise pollution.	Medium	1. Cultivate awareness among visitors to limit excessive and unnecessary noise.	Low to Zero
6. Local and regional vegetation and ecological destruction and disturbance due to increased risk of veld fires due to human activities.	Low	1. Construct a proper fire break on the perimeters of the site to control a fire from escaping or entering the site. 2. Conduct awareness on veld fire prevention among all residents. 3. Have fire fighting equipment at hand. 4. Prevent open fires on days with a high fire danger rating (yellow, orange and red rating days). 5. Have a fire reporting system in place.	Low

Conclusion

Three sites proposed for constructing a tree house platform (footprint 150 m2) were assessed on the Marataba section of Marakele National Park. The sites are located on the footslopes of the northern escarpment of the Waterberg mountain range about 35 km north of Thabazimbi, Limpopo province. All three study sites are situated in the Waterberg Mountain Bushveld vegetation type, which has a “least threatened” conservation status.

The sites are very similar in their environmental parameters and ecological properties and ecological functioning. The sensitivity analysis indicates relatively low impact sensitivity for the type and size of development and that all three sites have a relatively equal sensitivity level. An already existing tourist road runs nearby all three sites.

It is concluded that the predicted ecological impact of the proposed development would be minimal due to the small size of the footprint and the location away from ecologically sensitive areas. It is my view that any of the three sites may be considered for the development if approved.

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The Development of a Tree-house for Tourist Accommodation, Marataba Safari Lodge, Marataba Section of the Marakele National Park, Limpopo Province

FP Coetzee
Heritage Practitioner

20 October 2016

Letter of Recommendation for Exemption (LoRE)

1. Introduction

The proposed development consists of a tree-house type sleep out which will accommodate up to five people, two adults with up to three children. The development will be a free-standing platform structure with a footprint of approximately 150 m^2. As such the proposed development will not have an actual ground footprint, as the tree house will be constructed in a tree. Also access will be provided by existing roads adjacent to the selected locale.

2. Location

The Marataba Lodge is situated in a 23000 ha private concession within the Marataba Section of the Marakele National Park, in the Limpopo Province. The lodge attracts a number of tourists on an annual basis which facilitates and promotes the protected area sustainability through ecotourism. The tree house will be situated on Portion 2 of the farm Geelhoutbosch 269 KO.

The experience of sleeping out in a "tree house" is a very unique way of experiencing the African bush, which the More Lodges would like to make available at the Marataba Lodge. This development is intended to proceed under environmentally sound practices and principles, ensuring that the tourism operation continues to operate in an environmentally sound manner whereby the impacted footprint of the facility and its operations are minimized.

More Concession 1 (Pty) Ltd has contracted EMROSS Consulting (Pty) Ltd as independent environmental assessment practitioners, to undertake the required actions to apply for environmental authorisation from the National Department of Environmental Affairs, for the development of the tree house. I was then appointed by EMROSS to conduct the heritage letter of exemption.

Alternative 1	Alternative 2	Alternative 3
27,57125013°E 24,37303713°	27,5667331°E 24,37429303°S	27,56521667°E 24,37464566°S

Figure 1: Regional context of the Marakele Nature Reserve

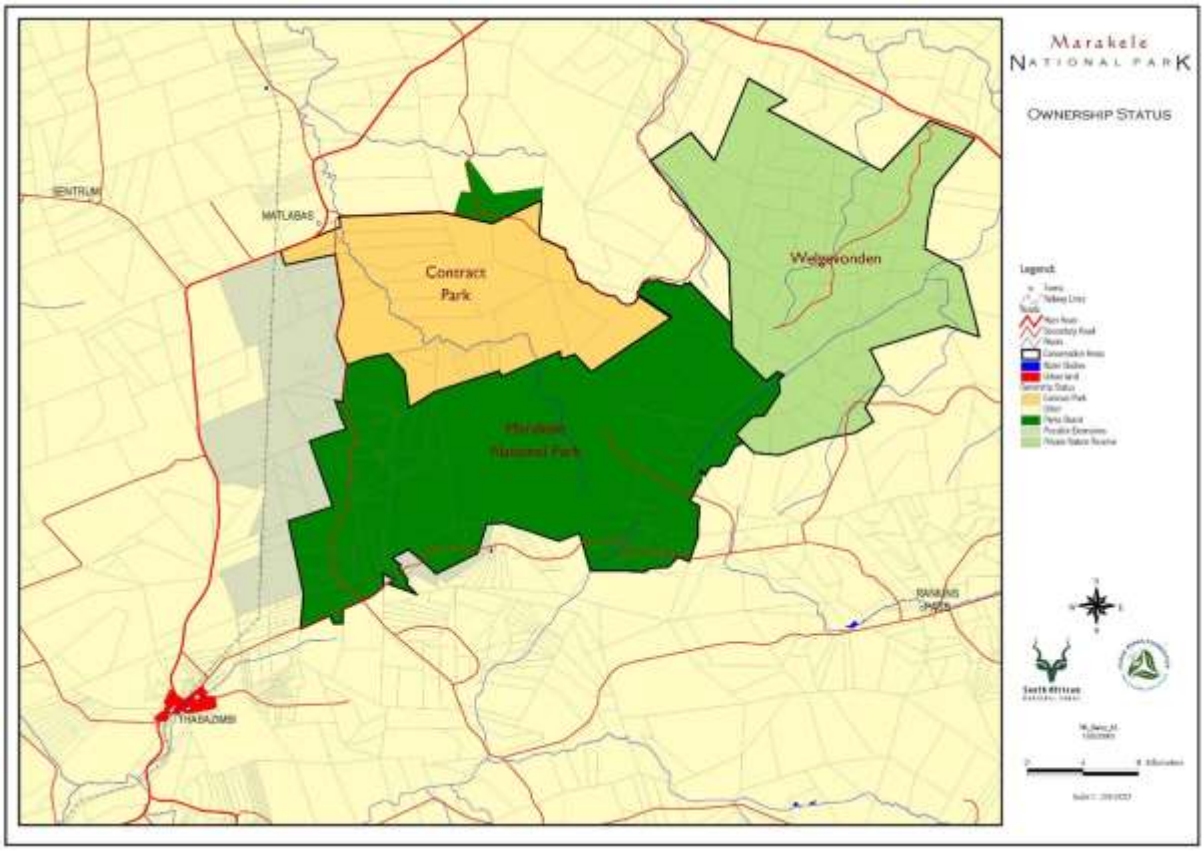

Figure 2: Marataba Lodge is part of the Contract Park of Marakele National Park

Figure 3: The three proposed alternatives for the tree house

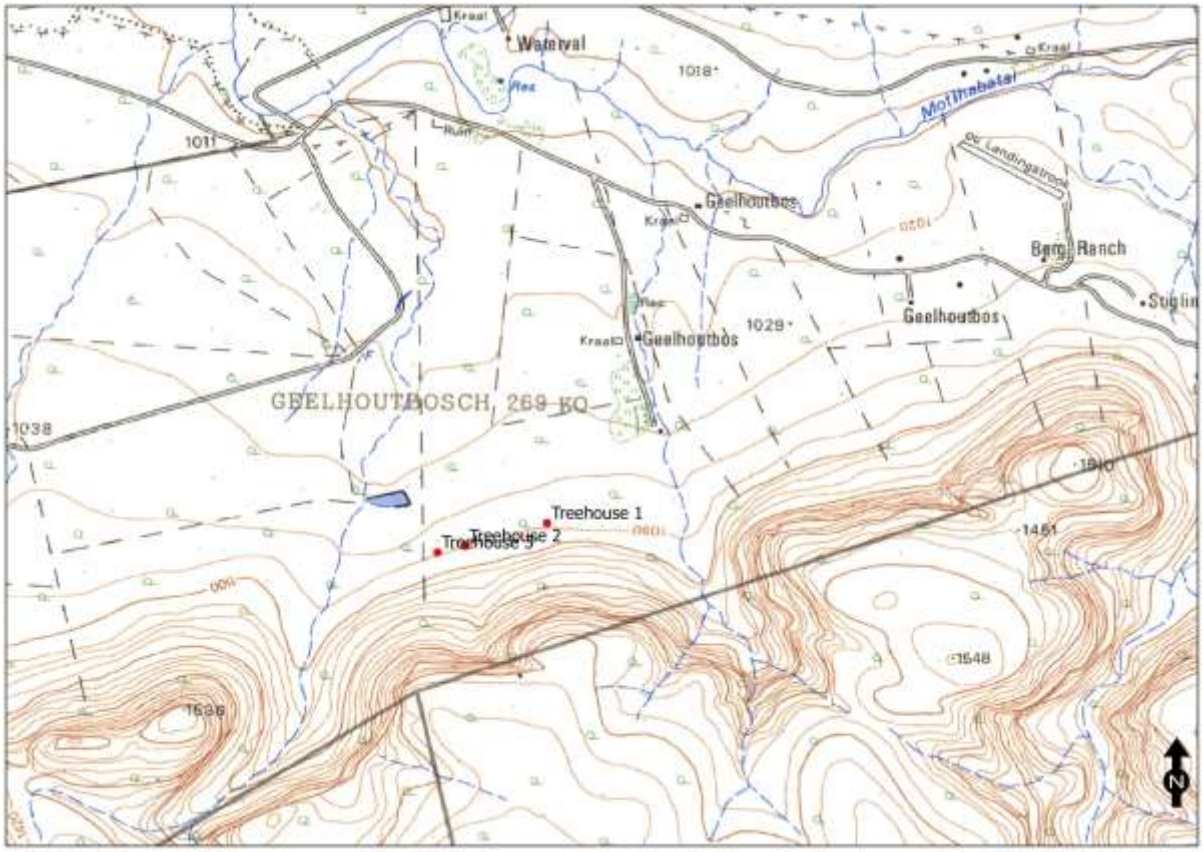

Figure 4: Location of the proposed alternatives as indicated on the 1:50 000 map 2427BC

Figure 5: General view at alternative site 1

Figure 6: General view at alternative site 1

Figure 7: General view at alternative site 2

Figure 8: General view at alternative site 2

4. Assessment and recommendation

Following on a heritage impact assessment that I completed in 2014 in the region (Coetzee 2014) and the larger survey conducted by Birkholtz and Steyn (2002) I can with reasonable confidence conclude that the proposed tree-house development will not have any impact on the cultural heritage remains in the area. Furthermore it is also with a firm confidence predicted that no cultural heritage remains (whether historical, Stone Age or Iron Age) will be found in the area of the proposed development.

It is therefore recommended that the proposed tree-house development at the Maratabe Lodge be exempted from a Phase 1 Cultural Heritage Survey.

FP Coetzee
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ASAPA CRM Reg No: 28

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Email: mette@emross.co.za

APPLICANT:
More Concession 1 (Pty) Ltd.
Tel: 011 880 9992
www.more.co.za

Bibliography

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VISUAL IMPACT ASSESSMENT: CONSTRUCTION OF TREE-HOUSE

PROJECT:
The Development of a Tree-house for Tourist Accommodation, Marataba Safari Lodge, Marataba Section of the Marakele National Park

CONSULTANT:
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1240
Phone: 013 750 2782/ 013 007 0077
Cell: 082 3399 627
Fax: 086 675 4320
Email: mette@emross.co.za
Assessor: Andrew Rossaak

APPLICANT:

More Concession 1 (Pty) Ltd.
Tel: 011 880 9992
www.more.co.za

PROPERTY:
Portion 2 of the farm Geelhoutbosch 269KQ
Marataba Section of the Marakele National Park

16 January 2017

Marataba
SAFARI LODGE

EMROSS
CONSULTING (PTY) LTD

Visual Impact assessment – Site 1 (Preferred Site)

Undertaken and reported on by Andrew Rossaak.

One of the few negative impacts the tree house may have is that of visual impact – or detracting from the sense of place. This is considered undesirable during both day and night conditions.

In order to establish the significance of the potential visual impact an assessment was made of visibility of the site during the day and with lights at night. This assessment was undertaken on 8 November 2016, at a time of limited vegetative cover, to establish the 'worst case scenario'.

Only the preferred site was assessed as this site has a large tree which made it easier to locate in the landscape and provided the ability to place lights at a higher-than-expected position.

Visual impact during the day

The deck is planned to be about 2.5 meters above the ground, and have a 1 meter balustrade, giving a total structure height of roughly 3.5 meters (figure 1).

The surrounding vegetation has a height of roughly 2.5 meters (photo 1) and is on a lower hill slope so it is unlikely to break the skyline from any viewpoint more than 50 meters from the site.

The tree that makes site 1 favoured will contribute to the screening of the structure (photo 1) as it will be integrated into the deck (figure 1).

Photo 1: Preferred site 1.

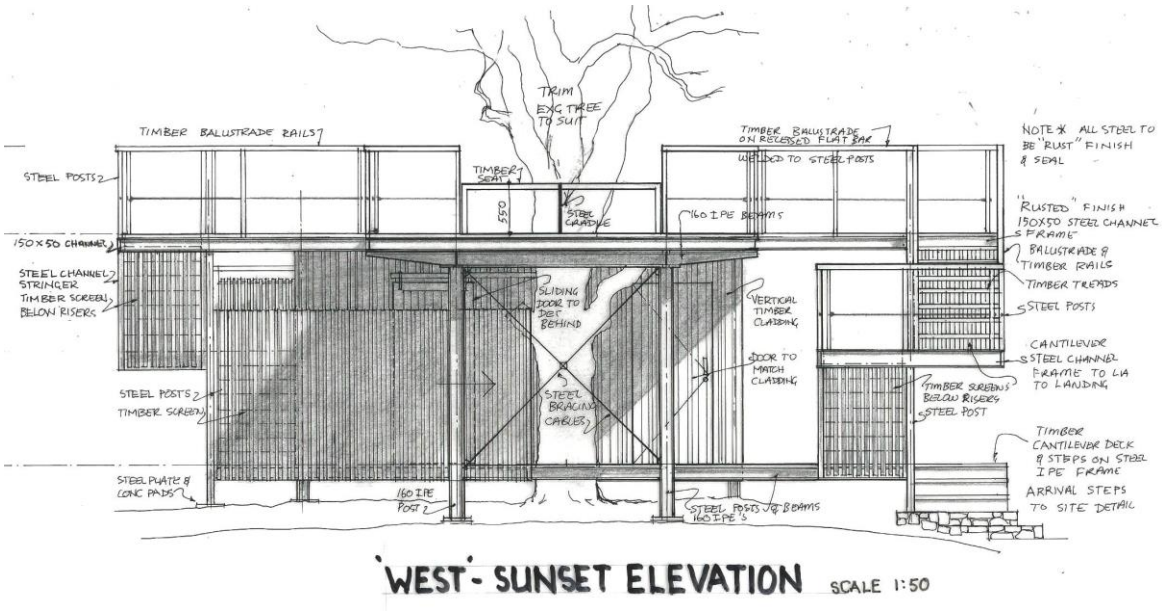

Figure 1: Drawing of proposed elevated platform "Treehouse"

Visibility from the reserve during the day is expected to be minimal unless one is driving right past the site. The tree is just visible from the Marataba Safari Lodge (photo 2), and it is likely that one would battle to locate it at all without good prior knowledge and pointers. Using the camera zoom, the tree is locatable, however it is likely that the deck would be hard to make out (Photo 3) from this distance, even with binoculars or zoom camera.

Photo 2: View towards the proposed treehouse site, from Marataba Lodge.

Photo 3: Camera zoomed in on the site 1 tree from the Marataba Safari Lodge.

During day time and times when the treehouse is not operational (expected to be 65% of the time), the tree house will be packed away and covers will be placed over the furniture to protect it from the elements. The covers used will also be a subdued colour that blends into the landscape.

Recommendations for day time mitigation of visual impact:

1. Use natural products and colours represented on site.
2. Avoid long hard lines and large monochromatic areas.
3. Avoid chromed and reflective objects or materials on the deck area.
4. Avoid large, very smooth un-textured surfaces (they can be reflective).

<u>Visual impact at night – lights</u>

The visual impact at night is likely to be solely due to lights. This impact is likely of greater significance than the daytime impact and mitigation is important.

Mitigation measures to avoid/ reduce light pollution commonly employed in reserves involves;

- Shielding of lights, such that naked lamps are not visible;
- Ensuring that lights shine down and are kept low to the ground;
- Using dim, diffused lighting.

Generally, the lights from diffused source for general lighting do not penetrate very far, whereas a naked light source can be seen from a considerable distance.

In order to assess the impacts as well as effectiveness of proposed mitigation measures, a test was undertaken with shielded and un-shielded lights located in the tree on the site. Receptors were positioned at various points on the reserve to determine the visibility of these light sources.

It is worth noting that the mountain behind the treehouse (from most receptor points on the reserve) is a very dark background, thus making any light pollution more apparent.

Photos 4-6 below illustrates how the lights were placed in the tree on site 1 and the process of using multiple light sources to determine impact at receptor points. In addition game viewing spotlights were used to help the receptor points identify the correct location.

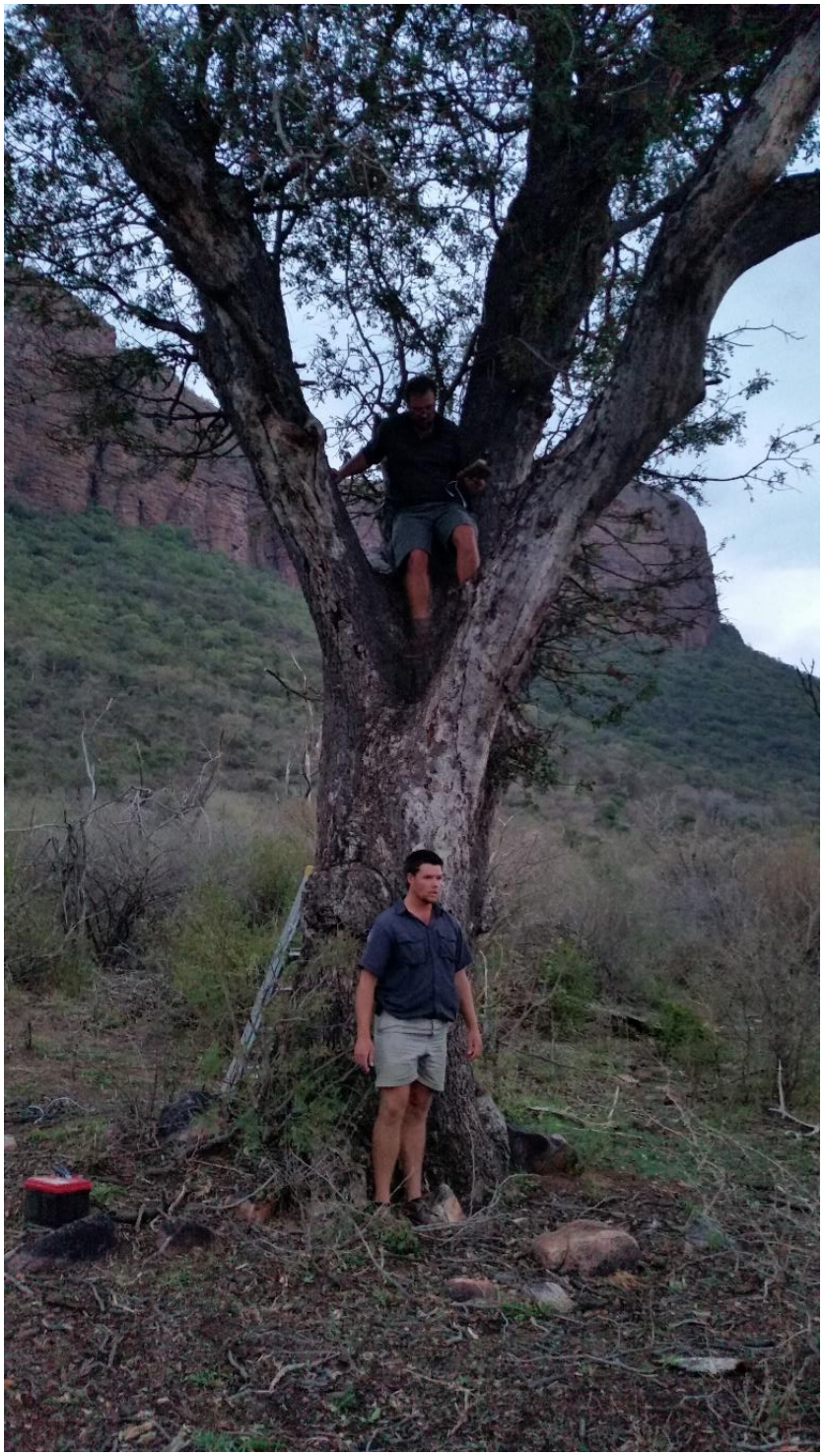

Photo 4: The height of the lights were approximately 5-6 metres above ground level

Photo 5: Various types of lights were placed in the tree, including 'solar jars' and various led strip lights with and without diffusers and shielding.

Photo 6: the visibility of the lights were assessed at varying levels of darkness from various vantage points

It was found that the naked lights were only barely noticeable from the Marataba Safari Lodge and none of the other receptor points reported seeing the lights, whilst the mitigated lights were not visible at all. The results were as follows:

- Tau Pan – Andre was stationed here and could see no light pollution.
- River Complex – Cornou was stationed here with a set of binoculars and could see no light pollution.
- Trails Lodge – Rynard was stationed at trails and could see no light pollution.
- Marataba Safari Lodge – Nadea was stationed here and could see some lights when spotlights were used – and then also when the unshielded solar lanterns were on.

Importantly, from the most of the reserve the treehouse lights could not be seen, indicating that it will have very limited impact on the reserve. The treehouse lights, whilst they could be picked up to some extent from the Safari Lodge, is not considered a negative as it will lead to curiosity from guests about the treehouse, and thus promoting the facility.

Recommendations for day time mitigation of visual impact:

1. Use of shielded LED lights.
2. Ensure that all fixed lighting is 'down lighting' and that no naked lights are visible.
3. Even though LED lights have a low UV emission, the use of yellow will further reduce the attraction of insects.
4. The use of mobile lights are limited to guest dining and are on for limited periods.
5. Use low energy low power lighting.

<u>Light pollution and wildlife conflict</u>

There is potential that lighting in the reserve may impact wildlife. Lights will attract insects, and in turn insectivores, which may attract other predators. In addition lights may affect the navigation of nocturnal fauna.

Currently, at the Safari Lodge, the lighting is not noted as being problematic or affecting wildlife. The impact at the tree house will be much less for the following reasons:

1. The occupation s expected to be occasional rather than frequent. Thus not affecting the natural distribution of the animals.
2. The lights are low energy with low UV emissions, thus being low attractants to insects.
3. The lights are to be predominantly downlights, thus having little impact on nocturnal avifauna.
4. The lights will have a very limited penetration and thus have a limited sphere of impact.

<u>Conclusion:</u>

The potential visual impact of the proposed platform treehouse is extremely limited both in day and night time, provided that the proposed mitigation measures are implemented.

MARA TREEHOUSE PUBLIC PARTICIPATION APPENDIX E

CORRESPONDENCE WITH AUTHORITIES AND NEIGHBOURS

The various authorities and neighbours were contacted via e-mail on 23 August 2016.

No particular concerns have been raised by neighbouring parties or authorities.

Site notices were erected, on 20 August 2016, at the Marataba entrance to the game reserve and at the reception at the SAN Parks Marakele Nature Reserve.

No responses have been received as a result of the site notices.

A notice was placed in the local newspaper for the area – The Platinum Bushvelder on 9 September 2016.

No responses have been received as a result of this advert.

Photo 1: Site notice erected at the Marataba entrance on 20 August.

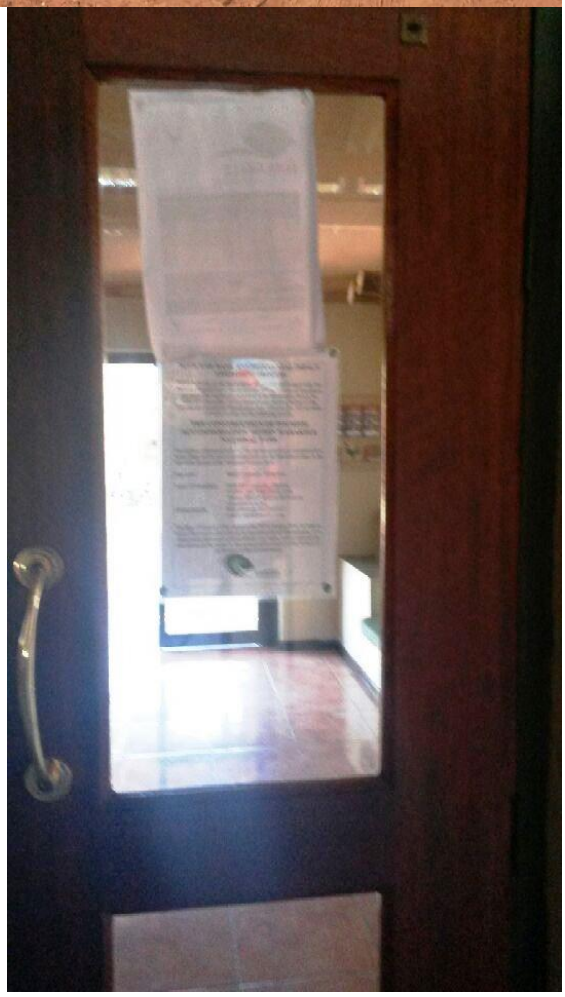

Photo 2: Site notice erected at the reception Of the Marakele Nature reserve.

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Mogwase – Bertie Joubert Properties have 16 newly built houses for sale in Mogwase. This is the perfect opportunity for first time home owners to buy a brand new property. Each house consists of 3 bedrooms, 1 bathroom, living area, kitchen and carport. The stands are proximately 400m2 and the houses 66m2 big. Mogwase is situated between Sun City and Northam.
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- Ons Kaya w/stel: 2 slapk, 1badk oopplan sitk & kombuis, stoepk @**R800 000.**
- 5Ha Plot met netjiese 4slapk, 2badk, ruim oopplan kombuis, eetk &sitk, studeurk,1 slapk w/stel, swembad, 3m/huis, boorgate ens. @**R1.870milj.**

NORTHAM:
- 3 Slapk, 1badk, oopplan sitk en kombuis, m/afdak @**R400 000.**
- 3 Slapk,1badk oopplan sitk en kombuis, m/huis @**R540 000.**

EMROSS CONSULTING (PTY) LTD

NOTICE OF BASIC ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Notice is hereby given that an application is intended lodged with The National Department of Environmental Affairs in terms of Regulation 41(2)(a) of the regulations published in the Government Notice No. R982 of 4 December 2014 published under section 24(2)(c) of the National Environmental Management Act, 1998 (Act 107 of 1998) of intent to carry out the following activities:

THE DEVELOPMENT OF TOURISM ACCOMMODATION WITHIN THE MARATABA SECTION, MARAKELE NATIONAL PARK.

Description of proposed activity: The applicant wishes to develop a platform sleep out accommodating a maximum of five people. This activity is listed under GNR 985 of 4 December 2014, activity #5(a). Marakele National Parks is located in the Limpopo Province.

Name of Applicant: More Concession 1 (Pty) Ltd.
Name of Consultant: Emross Consulting (Pty) Ltd • P.O. Box 507, White River, 1240 • Tel: 013 7502782 or e-mail: andrew@emross.co.za • Contact person: Mette Rossaak @ 082 3399 627.

The date of publication of this advertisement is the 9th of September 2016. In order to ensure that you are identified as an interested and/or affected party, if you so wish, please submit your name, contact information and interest in the above mentioned project to the contact person given above within 30 days of publication of this advertisement.

JF van Graan & vd Wateren

Eiendomme/ Properties

'n Wye verskeidenheid bees- wild- en besproeiingsplase.

Marina: 082 550 6649 | Na-Ure: 014 772 1770
marina@vgvdwproperties.co.za

Marina v.d Wateren
Tel: 014 777 1611

TE HUUR THABAZIMBI: 5 SLPK, 3 BADK, STOORKAMER, AFDAK, 3 M/HUISE, SWEMBAD, LAPA – R11 000.
3 SLPK, DUBBEL GERIEWE, STOORKAMER – R8 800.
4 SLPK, 2 BADK, 1 SLPK WOONSTEL, BOORGAT, 1 M/HUIS – R7 500.
SEKURITEITS KOMPLEKS:
3 SLPK, DUBBEL GERIEWE - R7 000.
2 SLPK, BASIESE GERIEWE - R4 800.
3 SLPK, DUBBEL GERIEWE – R8 200 – BESKIKBAAR VANAF 1 OKT.
3 SLP/K 2 BK, 2 M/H.GROOT OOPPLAN LEEF AREA R6600.

ERF TE KOOP LEEUPOORT: 400VKM² - R220 000.

TE KOOP THABAZIMBI: ECO PARK – 5KM UIT DORP – 3 SLPK, 2 VOL BADK, STUDEERKAMER, OOPPLAN LEEFAREA – R970 000.
5 SLPK, 2 BADK, GROOT OOPPLAN LEEFAREA, ANGEBOUDE BRAAIAREA, APARTE OPWAS, 1 SLPK WOONSTEL MET BASIESE GERIEWE, SWEMBAD, BUITEGEBOU, 2 AFDAKKE, BAIE EKSTRA'S - R1 780 000.

3 SLPK, 2 BADK, OOPPLAN LEEFAREA, LAPA MET BRAAIAREA, SWEMBAD, 1 M/HUISE, 2 AFDAKKE, BAIE EKSTRA'S – R900 000.

3 SLPK, 2 BADK, OOPPLAN LEEFAREA, ENKEL M/HUIS IN SEKURITEITSKOMPLEKS – R720 000.

3 SLPK WONING MET BASIESE GERIEWE EN AFDAK – R740 000.

Subject: Marataba Safari Lodge - Application for Environmental Authorisation
From: Mette Rossaak <mette@emross.co.za>
Date: 23/08/2016 14:03
To: undisclosed-recipients: ;
BCC: greatland@lantic.net, africa4u@lantic.net, info@matlamamba.co.za, parkmanager@marakelepark.co.za, ralphbj@telkomsa.net, neels@fabervervoer.co.za, mphadeni.nthlangeni@sanparks.org, carleemail@gmail.com, info@waterbergbiosphere.org, mogashoams@ledet.gov.za

Dear Sir/ Madam,

More Concession 1 wishes to develop a tree house sleep out within the Marataba section of the Marakele National Park. The tree house as proposed is a raised deck and will not damage any trees.

EMROSS Consulting has been appointed as independent environmental assessment practitioners to apply for environmental authorisation for this activity, and in that connection, investigate the potential environmental risks in connection with the construction and to propose mitigation measures where possible. An important part of this process is the participation of interested and potentially affected parties.

You have been identified as a interested party because you represent an authority with jurisdiction and as such we would value any comments you may have.

I have attached an information document that outlines the proposal for the treehouse. We have identified certain risks which need to be assessed in the evaluation of the proposed activity, and the information provided is what we have at present.

If you wish, you can register or submit your comment by using the on-line form on the download page of our website www.emross.co.za, or simply reply to this email.

If you have no comment or concerns at this stage, that is fine - please just let us know. You will still have the opportunity to view the environmental assessment report prior to submission to the authorities.

Should you not wish to receive further correspondence regarding this assessment, please inform us to that effect by replying to this email.

If you have any questions, please feel free to contact me

--
Mette Rossaak
Certified Environmental Assessment Practitioner

Emross Consulting (Pty) Ltd.
Tel 013 750 2782
Cell 082 3399 627
Fax 086 675 4320

Attachments:

BID- Mara Tree-house.pdf 611 KB

BACKGROUND INFORMATION DOCUMENT: CONSTRUCTION OF TREE-HOUSE

PROJECT:
The Development of a Tree-house for Tourist Accommodation, Marataba Safari Lodge, Marataba Section of the Marakele National Park

CONSULTANT:
EMROSS Consulting (Pty) Ltd.
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White River
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Cell: 082 3399 627
Fax: 086 675 4320
Email: mette@emross.co.za

APPLICANT:

More Concession 1 (Pty) Ltd.
Tel: 011 880 9992
www.more.co.za

PROPERTY:
Portion 2 of the farm Geelhoutbosch 269KQ
Marataba Section of the Marakele National Park

August 2016.

Marataba
SAFARI LODGE

EMROSS
CONSULTING (PTY) LTD

1. INTRODUCTION

The Marataba Lodge is situated in a 23000ha private concession within the Marataba Section of the Marakele National Park, in the Limpopo Province. The lodge attracts a number of tourists on an annual basis which facilitates and promotes the protected area sustainability through ecotourism.

The experience of sleeping out in a “tree house” is a very unique way of experiencing the African bush, which the More Lodges would like to make available at the Marataba Lodge.

This development is intended to proceed under environmentally sound practices and principles, ensuring that the tourism operation continues to operate in an environmentally sound manner whereby the impacted footprint of the facility and its operations are minimized.

More Concession 1 (Pty) Ltd has contracted EMROSS Consulting (Pty) Ltd as independent environmental assessment practitioners, to undertake the required actions to apply for environmental authorisation from the National Department of Environmental Affairs, for the development of the tree house.

Government notices no. R 983-985 stipulates activities which require authorisation, in terms of the National Environmental Management Act (Act 107 of 1998). Government notice 982 prescribes the manner in which the application must be undertaken.

2. PROPOSED DEVELOPMENT

The proposed development is the construction of a tree-house type sleep out which will accommodate up to five people, two adults with up to three children. The development will be a free-standing platform structure with a footprint of approximately 150m^2. Three alternative sites have been identified and considered.

Figure 1: Mara Treehouse alternative sites (Source: Google Earth 2016).

3. LEGISLATIVE CONTEXT

In terms of the National Environmental Management Act (NEMA), the activities proposed are regarded as listed activities under schedule of activities as follows:

GNR 985 – LN3 (Basic Assessment in certain geographical areas):
Activity #5: "The development of resorts, lodges, hotels and tourism or hospitality facilities that sleep less than 15 people, in (a) A protected area identified in terms of NEMPAA…".

A basic environmental assessment is thus required to be conducted in order to obtain environmental authorization.

The proposed developments may also be subject to regulations contained in other legislation, such as the:

- National Environmental Management: Protected Areas Act (No 57 of 2003);
- National Heritage Resources Act (No 25 of 1999, Section 38);
- Conservation of Agricultural Resources Act (No 43 of 1983);
- National Water Act (No 36 of 1998);
- National Environmental Management Act (No 107 of 1998);
- Constitution of the Republic of South Africa (Act 108 of 1996); and
- Promotion of Access to Information Act (No 2 of 2000).

These legislative components will be incorporated into the report where they are applicable.

4. THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The legislation calls for a basic assessment to establish potential environmental impacts of the proposed developments. The assessment will look at avoiding or minimising potential environmental damage and promote sustainable development.

The assessment process commences with a planning stage. During this stage:

- A pre-application meeting is held with the decision making authority, in this case the National Department of Environmental Affairs;
- Site visits by specialists may be required, if deemed necessary, to assess the site and potential impacts that could be caused by the proposed developments;
- Potential interested and affected parties to the development are identified and
- Notices and advertisements are publicised and identified interested and affected parties are consulted.

The planning stage is followed by a reporting stage. During this stage:

- Property information and public comment, along with various assessments and specialist inputs, are incorporated into a report which assesses the proposed development in context of the site.

The reporting stage is followed by Public Participation, where:

- The compiled report is made available for comment; and
- The application form and report is submitted to the competent authority.

The final stage is the decision making stage. During this stage:

- The authority reviews the report and public comments for decision making.
- Once the decision is made, this is circulated to the applicant and to the public. There will be an opportunity to appeal the decision at this point.

5. PUBLIC PARTICIPATION PROCESS

In accordance with the Constitution of the Republic of South Africa, it is the right of persons to have the environment in which they live protected in a responsible and sustainable manner. Every person also has the right of access to information and should be informed of any proposed scheduled activities.

Therefore, an important aspect of the Environmental Impact Assessment process is to identify potential Interested and Affected Parties and to provide them with accessible information, to which they may raise comments or voice any concerns associated with the proposed developments.

This is done by contacting special interest groups and park management, by advertising the process in a local newspaper, and by erecting notices at the entrances to the national park.

Registered Interested and Affected Parties have the right to comment on reports regarding the developments, which are to be submitted to the department by the consultant.

In return the registered Interested and Affected Party is expected to:

- Submit all comments in writing to the consultant;
- Adhere to time frames given for commenting or submit a written motivation for why a longer commenting period is needed; and
- Disclose any direct business, financial, personal or other interest in the development and/or approval or refusal of the development.

6. WHO TO CONTACT

Should you wish to register as an interested and affected party to this process and should you have any special concerns that you wish to be addressed during the assessment process, please send your name and contact details and issues to be addressed to:

EMROSS Consulting (Pty) Ltd.
Mette Rossaak
PO Box 507
White River
1240

Cell: 082 339 9627
Fax: 086 675 4320
E-mail: mette@emross.co.za

Interested and Affected Parties have **30 days to register**. We will, however, be accepting comments throughout the process. In order for issues to be fully assessed, it would be preferable to receive these at the start of this process.

The whole assessment process is expected to last approximately 6 months.

Subject: Read: Marataba Safari Lodge - Application for Environmental Authorisation
From: "Loads @ Faber Vervoer" <loads@fabervervoer.co.za>
Date: 23/08/2016 14:59
To: "'Mette Rossaak'" <mette@emross.co.za>

Your message

To: undisclosed-recipients:
Subject: Marataba Safari Lodge - Application for Environmental Authorisation
Sent: 2016-08-23 02:03 PM

was read on 2016-08-23 02:59 PM.

```
Reporting-UA: fabervervoer.co.za; Microsoft Outlook 14.0
Final-Recipient: rfc822;loads@fabervervoer.co.za
Original-Message-ID: <aa38a7e4-90f6-5c5d-15d9-bfb8865d61cb@emross.co.za>
Disposition: manual-action/MDN-sent-automatically; displayed
```

Subject: Read: Marataba Safari Lodge - Application for Environmental Authorisation
From: "ARRIE & IRMA POTGIETER" <info@matlamamba.co.za>
Date: 23/08/2016 17:34
To: "'Mette Rossaak'" <mette@emross.co.za>

Your message

To: undisclosed-recipients:
Subject: Marataba Safari Lodge - Application for Environmental Authorisation
Sent: 2016/08/23 2:03 PM

was read on 2016/08/23 5:34 PM.

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Reporting-UA: matlamamba.co.za; Microsoft Outlook 14.0
Final-Recipient: rfc822;info@matlamamba.co.za
Original-Message-ID: <aa38a7e4-90f6-5c5d-15d9-bfb8865d61cb@emross.co.za>
Disposition: manual-action/MDN-sent-manually; displayed
```

Subject: RE: Marataba Safari Lodge - Application for Environmental Authorisation
From: André Uys <andre@whmarataba.co.za>
Date: 04/10/2016 06:46
To: <mette@emross.co.za>
CC: "Gawie at Marataba Safari Lodge" <gawie@marataba.co.za>

Dear Mette

My apologies for the late response to your email re the proposed development of a "Tree House" on the Marataba Section of the Marakele National Park. I would like to register as an interested and affected party to the development and request that you copy me in to all future correspondence regarding this development as well as forwarding me all relevant specialist reports on the proposed sites.

Please would you be so kind as to forward me the exact GPS sites of the 3 possible sites that have been selected for the development at this stage.

Best Regards

DR. ANDRÉ UYS
GROUP GENERAL MANAGER
BSc, BVSc, MSc UP
CELL: 083 414 6369
EMAIL: andre@whmarataba.co.za

Marataba
CONSERVATION

Subject: Re: Marataba Safari Lodge - Application for Environmental Authorisation
From: Mette Rossaak <mette@emross.co.za>
Date: 05/10/2016 11:34
To: André Uys <andre@whmarataba.co.za>

Dear Andre,

Thank you for your interest in this project, I will ensure that you receive future correspondence.

Please find attached google earth kmz files indicating the three identified sites along with a printout.

Please do not hesitate to contact me should you have further enquiries.

Kind regards

Mette Rossaak
Certified Environmental Assessment Practitioner

Emross Consulting (Pty) Ltd.
Tel 013 750 2782
Cell 082 3399 627
Fax 086 675 4320

Subject: Marataba tree house
From: Andrew - EMROSS <andrew@emross.co.za>
Date: 10/11/2016 15:25
To: André Uys <andre@whmarataba.co.za>
CC: Andy Paterson <Andy@more.co.za>

Dear Andre,

Good to meet you on Tuesday - and thank you for your time. Thanks too for the inputs on the light experiment.

It is important for us to get this right and ensure that if it is to go ahead, it is with the right level of mitigation and minimal impact.

I understand there needs to be a decision from the landowner etc. and we are happy to wait for that process.

As part of that, and if the decision is positive, can I ask you to please then send me a letter that will provide the following:

1. Marataba is the management authority under SANParks agreement for this section of the reserve
2. That under this agreement you have authority to determine infrastructure development (I am presuming you do)
3. That the development is in line with the management plan
4. That the treehouse construction (including sewage system) is approved in terms of the NEM Protected Areas Act and regulations.
5. That Marataba have commented and have no objection to the tree house with the proposed mitigation measures implemented.

Particular wording up to you - but happy to help if you wish.

Many thanks again.

Please feel free to call if there is anything you wish to discuss.

Kind regards

Andrew Rossaak *Pr.Sci.Nat.*

EMROSS
Emross Consulting (Pty) Ltd.
Tel 013 750 2782 / 013 007 0077
Cell 082 3399 627
Fax 086 675 4320

From: Cornou Rykaart [mailto:cornou@whmarataba.co.za]
Sent: Monday, 28 November 2016 11:55 AM
To: Andy Paterson <Andy@more.co.za>
Cc: 'Andre Uys' <andre@whmarataba.co.za>
Subject: Marataba treehouse

Hi Andy,

We have received favourable shareholder feedback on the proposed Marataba treehouse.

The project is accepted as per your proposal received, under the following conditions:

- MORE to carry all development costs
- The treehouse not to count towards the occupancy calculation
- Premium charge for staying at the treehouse to slightly raise the average published rate for the concession fee calculation
- MORE not to deviate from minimalist plan and design philosophy as was presented
  - MPCo to be kept in the loop throughout the development of the treehouse
  - Any environmental, light pollution and other concerns MPCo may have to be addressed as thoroughly and as reasonably possible
  - MORE to provide MPCo with the environmental management plan and ROD prior to initiating construction
  - MORE to ensure that environmental management plan is strictly adhered to
  - MORE to submit all environmental management audits issued prior to and during the construction to MPCo as soon as they are made available
- Should the current concession contract not be renewed after 5 years, WH to refund MORE the remainder of the cost of the treehouse that would be depreciated over a 10-year term.
  - More to provide MPCo with a detailed cost estimation prior to the start of construction
  - MORE to provide MPCo with a detailed final cost summary immediately after construction is completed

Kind regards

CORNOU RYKAART
CHIEF FINANCIAL OFFICER
BCom (Acc) Hons (FinM) UP
CELL: 081 039 8018
EMAIL: cornou@whmarataba.co.za

Marataba
CONSERVATION

Marataba
SECTION OF THE MARAKELE NATIONAL PARK

THE MARAKELE PARK (PTY) LTD || P.O Box 2103, Thabazimbi, 0380, South Africa || Cell: 081 039 8018 || Email: info@whmarataba.co.za

20 December 2016

Mr Andrew Rossaak
Emross Consulting (PTY) Ltd
P O Box 507
White River
1240

Dear Andrew

RE: NO OBJECTION TO THE PROPOSED DEVELOPMENT OF A TREE-HOUSE FOR TOURIST ACCOMMODATION ON PORTION 2 OF THE FARM GEELHOUTBOSCH 269 KQ, MARATABA SECTION OF THE MARAKELE NATIONAL PARK, BY MORE CONCESSION I

Waterberg Holdings BV are the only shareholders of The Marakele Park (PTY) Ltd that manage the Marataba Section of the Marakele National Park as per the agreement signed between The Marakele Park (PTY) Ltd and SANParks in November 2000. Waterberg Holdings BV are also the only shareholders of CCG 108 Investments (PTY) Ltd which owns Portion 2 of the farm Geelhoutbosch 269KQ.

The proposed development of a tree-house for tourist accommodation falls is in line with the approved management plan for the Marakele National Park and is compatible with the zonation of the area. Furthermore NEMPAA makes provision for this type of activity and the proposed development complies with the legislation.

The Marakele Park (PTY) Ltd and CCG 108 Investments (PTY) Ltd have no objection to the development of the proposed tree-house for tourist accommodation on piece of land by MORE Concession I.

Please do not hesitate to contact me with any further queries.

Yours Faithfully

Dr A C Uys (BSc; BVSc; MSc)
General Manager
0834146369

20 December 2016

Mr Andre Rossaak

Emross Consulting (PTY) Ltd

P O BOX 507

White River

1240

Dear Andrew

RE: APPROVAL OF PROPOSED DEVELOPMENT OF A TREE HOUSE FOR TOURIST ACCOMMODATION ON PORTION 2 OF THE FARM GEELHOUTBOSCH 269KQ MARATABA SECTION OF MARAKELE NATIONAL PARK, BY MORE CONCESSION I

The Marataba Section of Marakele National Park is being managed by The Marakele (PTY) Ltd as per contractual agreement signed between South African National Parks and The Marakele Park (PTY). State proclaimed National Park land within the Marataba Section are also managed by The Marakele (PTY) Ltd subject to traverse area. Portion 2 of Geelhoutbosch 269 kq within the Marataba Section belongs to the Waterberg holdings

The South African National Park fully support the development of the tree-house for tourism accommodation and its objectives and SANParks is supporting the construction of the tree house at Geelhoutbosch 269 KQ portion 2

Yours faithfully

MNthangeni

Mphadeni Nthangeni
Park Manager: Marakele National Park, 078 841 6868

addo elephant
agulhas
augrabies falls
bontebok
cape peninsula
golden gate highlands
karoo
kgalagadi transfrontier
knysna
kruger
marakele
mountain zebra
namaqua
tankwa karoo
tsitsikamma
richtersveld
vaalbos
vhembe dongola
west coast
wilderness

1 NEED AND DESIRABILITY

More Hotels (Marataba Lodge) are experienced wildlife tourism operators and owners. Through their operation of delivering high quality and high end tourism experiences, they have identified an un-serviced niche in the market place. Marataba Lodge wishes to offer an exclusive experience of spending a night in the bush by adding a tree canopy level over-night deck to their range of accommodation options.

2 ALTERNATIVE ACTIVITY AND SITES

Several sites were initially identified for the proposed over-night deck. These sites then went through an evaluation and exclusion process and the current three alternatives were selected as the most viable. The preferred site was selected from these three sites as the most viable, due to the large trees and area clearing making it possible to construct the deck without damage to trees.

No alternative activity, other than no-go, has been assessed due to the activity being associated with existing associated, surrounding and recommended activities.

THE NO-GO ALTERNATIVE

The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline against which the impacts of other alternatives should be compared. Should the proposed development activity not go ahead, any potential environmental impacts, associated with constructing and operating the over-night deck, would be avoided.

The proposed preferred site is on a natural clearing in the vegetation. The proposed deck will cause some unavoidable impact to the site. With the proposed design and construction methods, it is however assessed that much of this impact can be mitigated. The vegetation type on site, although in a protected area, is not locally threatened and no irreplaceable habitat will be damaged by the footprint of the proposed development.

As the facility is desirable and the need established as well as the ability to mitigate environmental damage (as discussed below), there is no requirement to recommend the no-go option.

3 POTENTIAL ENVIRONMENTAL IMPACTS

Potential environmental impacts that should be considered when planning, designing and constructing the over-night deck;

The proposed development could potentially impact on or be impacted by main components of the physical environment:

Trenching for Services may lead to habitat fragmentation:

The provision of services (water, power, sewage) are required and will necessitate some trenching. Trenching is necessary as these services must be placed underground to protect wildlife and prevent

damage (and resultant issues) caused by wildlife such as elephant. Trenching will also cause a temporary habitat barrier. In this development, the trenching impact is very short and thus not significant.

Establishment of Access Road

The development of roads may cause similar impacts to trenching except permanent.

Development footprint will lead to a loss of habitat:

The footprint impact to the preferred site and Alternatives are amongst bushveld trees, and not in any riparian zone. The development of the sleep-out facility will impact habitat of roughly 80 square meters.

The Cumulative impact is associated with the loss of sense of place and broader loss of habitat:

The habitat impact is likely to be greater than the footprint of the facility. Here noise, odour, light and the presence of people is considered. This impact will affect different biota differently and may even be positive for some.

Loss of Ecosystem Services:

Natural vegetated areas provide invaluable ecosystem services, free of charge, and therefore it is very important to preserve these. Ecosystem services can be many things, some examples are as per figure 6 below:

- Supporting Photosynthesis
- Support for biodiversity
- Providing Habitat for plants and animals
- Aesthetics
- Recreation
- Clean Air
- Carbon storage

Figure 6: Ecosystem Services. Source: UNEP Millennium Ecosystem Assessment

Lack of rehabilitation leading to loss of soil and alien plant establishment:

The lack of or insufficient rehabilitation of the construction areas, following construction, may lead to erosion and the establishment of alien plants. The best way to ensure good rehabilitation is by enforcing good soil management practices during construction.

Pollution:

Pollution potential through poor waste management systems, facilities and actions.

BUILDINGS IN GENERAL

The proposed development could potentially impact on main components of the physical environment:

Soils

Soil erosion, loss of topsoil and deterioration of soil quality are the main potential impacts that could be caused during the construction of the deck. Once disturbed, soil becomes more susceptible to erosion. Changes to natural drainage patterns may be created by the building. Diversion of storm-water may result in large volumes of water being concentrated in certain areas, thereby increasing the risk of

erosion. Erosion of the soil surface greatly increases the risk of losing topsoil to erosion, impairing the soils ability to support vegetation growth. It also may provide sites for the establishment of alien plants.

During construction, hydrocarbons leaking from construction vehicles, refuelling depots and concrete mixing areas, may result in the contamination of soils.

The sourcing of sand and gravel for the construction of the building, may result in erosion and degradation of soil.

Surface and Ground Water

The risk of contamination of ground and surface water may increase during construction.

As mentioned above disturbance to soils caused by construction activities may cause erosion. Elevation of sediment loads due to eroded particles entering watercourses may effect sun penetration, water temperature and levels of oxygen available to aquatic species.

Temporary ablution facilities for the construction crew has the potential to impact on surface water in the form of chemicals, pathogens and nutrients.

Contamination of surface water with cement or concrete can be detrimental to aquatic organisms as it is very alkaline.

Hydrocarbon spills from construction vehicles may have a detrimental impact on surface water.

Much of these potential impacts are low due to the site being far from a watercourse.

Flora

Natural vegetation can be impacted by construction activities such as stock piling of materials and clearing of development footprint. Flora may also be impacted by increased access to a site, leading to harvest or disturbance to certain plants.

Fauna

Increased traffic and disturbance to a site may have an impact on the wildlife of an area, both during construction and operation. Human presence and noise may disturb animals resulting in the animals moving away from an area. Impact can also be directly in the form of killing the animals either by accident or intentionally. Impact on flora will very often have an associated impact on particular animals.

Cultural – Historical / Socio – Economic Impacts

Construction activities may disturb archaeological or cultural artefacts, if any such are present. This is dealt with in the Environmental Management Programme.

IMPACTS ON THE AESTHETIC NATURE AND 'SENSE OF PLACE'

Noise Pollution

Construction activities, may result in noise pollution, mainly from traffic from vehicles and machinery, but also from the construction crew. This will be strictly monitored as this noise will stress the animals and also potentially detract from the experience of paying guests at nearby facilities.

Once constructed the noise generated at the deck will be minor as there are not expected to be machines operating (airconditioners etc.).

Light Pollution

Light pollution may be created if construction takes place outside of daylight hours, which is unlikely.

During operation of the deck the use of outside lights may cause light pollution and increase the visual impact of the facility. This is a particular concern in a reserve, where such light pollution can degrade sense of place as well as affect nocturnal animals if it is bright.

Dust Pollution

Dust may be produced during construction, but will be limited to the construction site. Dust can be a nuisance but can, to a large extend, be controlled.

Dust generated during operation of the deck will be limited to vehicle generated dust on the roads. This should be limited as most travels will be at a slow pace.

Visual Impact

As sense of place is very important in an eco-tourism and game reserve context, and this is true for both the provision of and loss of sense of place. Care must be given in both site selection and building design to make the development blend in. In addition, the use of natural vegetation can assist in reducing the visual impact of the development. Due to the elevation of the proposed development, the visual impact of the development should be low as it is roughly at the tree canopy height. It is important for the feel of exclusiveness that the sleep-out is not in view of the existing lodge or other facilities.

RESOURCES

Water use

Water will be obtained from the existing boreholes serving the lodge. The new facility will create a small additional burden on the water supply. The water supply is an important sustainability component of the entire operation.

Energy consumption

Power will be from solar and batteries. This will limit the lighting to some extent.

Wildlife Interaction

Poor waste management and ill-informed staff and guests can lead to a situation where food rewards are easily available to opportunistic animals which will result in undesirable learned behaviour. Once this has become established it is difficult to manage the animal-human problems.

4 POSSIBLE AND RECOMMENDED MITIGATION MEASURES

Definition of 'mitigation measures':

Mitigation means 'to make something less severe'. This may be by implementation of practical measures to reduce, limit and eliminate adverse impacts or enhance project benefits and protect public and individual rights.

The potential environmental concerns have been considered and investigated. Where appropriate, mitigation measures have been proposed. In many cases, the existing procedures are sound environmental impact prevention measures themselves and little or no additional mitigation is necessary.

The mitigation measures provided below cut across various potential impacts and thus have not been presented against one or another particular impact, but should be considered as a suite of mitigation measures that when implemented, will reduce the negative impacts of the proposed sleep out deck. The possible impacts discussed above are considered and mitigation measures for these have been proposed below.

Recommended Mitigation Measures and Procedures:

- The cleared area must be as minimal as possible to contain the proposed infrastructure. Careful site demarcation and layout is essential. This will minimise the area of vegetation clearance and exposed soils (and thus erosion potential).
- Areas susceptible to erosion must be protected by installing appropriate temporary or permanent storm water drainage works and water energy dispersion structures.
- When excavating trenches, top soil and sub soils should be kept separate in order to facilitate the soils being replaced in the right order following construction. Topsoil, the upper 5-10cm of soil often contains the right amounts of humus and seeds to assist good rehabilitation of vegetation once the construction is finalised.
- All services (water, sewage and power) can be combined in the same trench. These should be in a sand bed and carefully demarcated to prevent accidental damage.
- All materials to be installed in a trench must be on site prior to excavating the trench in order to minimise the period the trench is open.
- Trenches should be open for less than 5 days.
- Open trenches must have exit points so as not to form a trap for fauna.

- When soil and vegetation is disturbed, the ideal conditions are created for colonising plant species. Alien invasive plants rely on these opportunities and therefore sound and rapid rehabilitation is desirable. Rehabilitation must be promoted and any alien plants removed.
- Implement appropriate topsoil management practices (stripping, stockpiling and reuse during rehabilitation of disturbed areas).
- All materials (sand and stone) for building must be sourced off site from sustainable and appropriately licensed source.
- Rehabilitate areas disturbed during construction, including spoil dumps and stockpile areas, as soon as possible after the disturbance has ceased.
- Ensure compliance with legislation such as the Conservation of Agricultural Resources Act, Hazardous Substances Act, and the Integrated Pollution and Waste Management Act.
- Ensure appropriate handling of hazardous substances. Hazardous substances must be stored in bunded containers in locked area.
- Remediate polluted soils. This can be done *in situ* with appropriate bioremediation solution.
- Ensure correct waste management. Waste sorting and recycling should be carried out where possible.
- Waste management must be undertaken such that wildlife conflict will be avoided.
- Ensure that the placing of concrete batching plants avoid areas susceptible to soil and water pollution, particularly drainage lines.
- It should be kept in mind that archaeological deposits usually occur below ground level. Should artefacts or skeletal remains be revealed during the construction of the building, the project proponent must be notified in order for an investigation and evaluation of the find(s), by a qualified archaeologist or a professional in the related field, to take place according to the National Heritage Resources Act (Act 25, 1999).
- Working hours should be kept to normal working hours from 8am to 4pm or as per the reserve regulations.
- Suitable site toilet facilities should be available. The early installation and use of the planned sewage plant can be useful.
- External lights should be positioned such that they are shielded and the naked light source is not visible from any point outside the structure. The use of reflected light is suggested and lighting should be of a low intensity and wattage.
- Care must be taken when considering colours used and the use of highly reflective surfaces must be avoided. Sunlight reflected can create a visual impact and affect sense of place.
- If dust becomes problematic, roadways should be dampened
- Water saving measures should be implemented wherever practical to minimise the amount of water that needs to be brought to site.

- Any water heating and other energy uses will be made as environmentally friendly as possible.

5 SUSTAINABILITY CONSIDERATIONS

Consideration and effort is being applied to sustainability measures in the design of the sleep out deck.

6 ENVIRONMENTAL IMPACT EVALUATION

An 'environmental impact' is the likely environmental consequences, whether positive or negative, of a proposed development. The significance of an environmental impact depends on its extent, intensity and duration, the sensitivity of the receiving environment along with the degree of change and probability of the impact to occur.

METHOD AND CRITERIA

Based on responses to issues identified for the proposed site, and adopting the precautionary principle in cases of uncertainty, potential impacts associated with each issue were subjectively classified according to the direction of impact viz. positive, negative or neutral. Whereas positive and negative impacts need to be addressed by management intervention, neutral impacts are considered accounted for.

Table 1 identifies the potential positive and negative impacts identified for the preferred site (Site 1), during construction and operation. Tables 2 and 3 identify the impacts of the alternative sites 2 and 3 respectively for construction and operation. The potential impacts are described and assessed for significance. Significance is assessed by scoring each impact on the basis of four variables: it's probability, severity, duration and it's spatial implications.

On the understanding that a significant impact is one which, either in isolation or in combination with other impacts, could have a material influence on the decision making process, including the specification of mitigating measures; significance in this study is scaled according to impact scores as follows:

Low (scoring less than 10)
Medium (scoring 10 – 15)
High (scoring more than 15)

The four variables, with their score criteria are detailed below:

Frequency / Probability (FR)
(Frequency or likelihood of activities impacting on the environment)
1. Almost never / almost impossible.
2. Very seldom / highly unlikely.
3. Infrequent / unlikely / seldom.
4. Often / regularly / likely / possible.
5. Daily / highly likely / definitely.

Severity (SV).
(Degree of change to the baseline environment in terms of reversibility of impact; sensitivity of receptor; duration of impact; controversy potential and precedent setting; threat to environmental and health standards).
1. Insignificant / non-harmful.
2. Small / potentially harmful.
3. Significant / slightly harmful.
4. Great / harmful.
5. Disastrous / extremely harmful.

Duration (DR).
(length of time over which activities will cause a change on the environment or vegetation).
1. One day to one month.
2. One month to one year.
3. One year to ten years.
4. Life of operation.
5. Post closure.

Spatial scope (SS).
(geographical coverage).
1. Activity specific.
2. Area specific.
3. Whole site.
4. Regional (neighbouring areas).
5. National.

Score is calculated for each aspect as the sum of the mitigated impacts to provide an impact value.

The impact values are summed to a total score.

7 ASSESSMENT OF POTENTIAL IMPACTS

Results of impact assessment are summarised in Tables below. Although sites are similar in terms of the potential environmental impacts, they are assessed separately so as to consider various aspects of potential impacts.

The ecological sensitivity as a percentage, determined by the specialist, has been added to each assessment score. This is done in order to include the ecological and biodiversity evaluation and representation.

The access route length has also been included as this is a factor that is different for the sites and has an impact on the receiving environment. A figure of roughly 10% of the access route has been used as it is hoped that this value is both meaningful and not an over representation.

The proposed and alternative sites have been subjected to the same level and rigour of assessments.

Table 1: Assessment of the Potential Impacts. **PREFFERED SITE – SITE 1**

ISSUE	FREQUENCY		SEVERITY		DR	SS	IMPACT	SIGNIFICANCE
	Unmitigated	Mitigated	Unmitigated	Mitigated				
Loss of sense of place	4	3	3	1	4	3	11	Medium
Loss of habitat	5	4	3	2	4	1	11	Medium
Cumulative impacts	4	3	2	1	4	2	10	Low
Damage or loss of trees	4	2	3	1	3	1	7	Low
Loss of ecosystem services	4	3	2	1	4	1	9	Low
Soil loss potential	3	2	2	1	2	1	6	Low
Light pollution	4	2	3	2	4	3	11	Medium
Noise pollution	4	3	2	1	4	1	9	Low
Visual impact	4	3	3	1	4	2	10	Low
Waste pollution	3	2	2	1	4	1	8	Low
Long lasting footprint	5	4	3	1	4	1	10	Low
Sub Total							**102**	
Ecological sensitivity %							27	
Access route							2	
TOTAL							**131**	

1

Table 2: Assessment of the Potential Impacts **ALTERNATIVE - SITE 2**

ISSUE	FREQUENCY		SEVERITY		DR	SS	IMPACT	SIGNIFICANCE
	Unmitigated	Mitigated	Unmitigated	Mitigated				
Loss of sense of place	4	3	3	1	4	3	11	Medium
Loss of habitat	5	4	3	2	4	1	11	Medium
Cumulative impacts	4	3	2	1	4	2	10	Low
Damage or loss of trees	4	2	3	1	3	1	7	Low
Loss of ecosystem services	4	3	2	1	4	1	9	Low
Soil loss potential	3	2	2	1	2	1	6	Low
Light pollution	4	2	3	2	4	3	11	Medium
Noise pollution	4	3	2	1	4	1	9	Low
Visual impact	4	3	3	1	4	2	10	Low
Waste pollution	3	2	2	1	4	1	8	Low
Long lasting footprint	5	4	3	1	4	1	10	Low
Sub Total							**102**	
Ecological sensitivity %							21.3	
Access route							7	
TOTAL							**130.3**	

Table 3: Assessment of the Potential Impacts **ALTERNATIVE - SITE 3**

ISSUE	FREQUENCY		SEVERITY		DR	SS	IMPACT	SIGNIFICANCE
	Unmitigated	Mitigated	Unmitigated	Mitigated				
Loss of sense of place	4	3	3	1	4	3	11	Medium
Loss of habitat	5	4	3	2	4	1	11	Medium
Cumulative impacts	4	3	2	1	4	2	10	Low
Damage or loss of trees	4	2	3	1	3	1	7	Low
Loss of ecosystem services	4	3	2	1	4	1	9	Low
Soil loss potential	3	2	2	1	2	1	6	Low
Light pollution	4	2	3	2	4	3	11	Medium
Noise pollution	4	3	2	1	4	1	9	Low
Visual impact	4	3	3	1	4	2	10	Low
Waste pollution	3	2	2	1	4	1	8	Low
Long lasting footprint	5	4	3	1	4	1	10	Low
Sub Total							**102**	
Ecological sensitivity %							24.5	
Access route							8	
TOTAL							**134.5**	

8 CONCLUSIONS:

The potential impact on the surrounding natural systems could be significant. However, if the recommendations of this report is taken into account and the environmental management programme followed during construction, and operation, it is proposed that the potential impacts will be significantly reduced.

Based on the criteria and potential mitigated impacts assessed, the sites score very similarly, thus there is little to choose between each site. Taking into consideration the specialist ecological report and the mitigated site impacts, the preferred site can be recommended.

ENVIRONMENTAL MANAGEMENT PROGRAMME: CONSTRUCTION OF TREE-HOUSE

PROJECT:
The Development of a Tree-house for Tourist Accommodation, Marataba Safari Lodge, Marataba Section of the Marakele National Park

CONSULTANT:
EMROSS Consulting (Pty) Ltd.
P.O. Box 507
White River
1240
Phone: 013 750 2782/ 013 007 0077
Cell: 082 3399 627
Fax: 086 675 4320
Email: mette@emross.co.za

APPLICANT:

More Concession 1 (Pty) Ltd.
Tel: 011 880 9992
www.more.co.za

PROPERTY:
Portion 2 of the farm Geelhoutbosch 269KQ
Marataba Section of the Marakele National Park

16 January 2017

Marataba
SAFARI LODGE

EMROSS
CONSULTING (PTY) LTD

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Table of Contents

1 SCOPE

The Environmental Management Programme (EMP) provides guidance and proposes viable and suitable mitigation measures for assessed impacts. The document is a 'living' document in order that it can be adapted to specific environmental concerns and issues as they arise. Changes to the EMP must be in accordance with the conditions stipulated in the Environmental Authorisation (EA).

The EMP must be finalised only after the EA has been issued so that it can take into account any particular requirements of the EA.

Copies of the EMP document, the EA and all Environmental Control Officer (ECO) and audit reports must be available on site at all times.

2 AGREEMENT

It is important to note that the acceptance of the EMPr by the relevant environmental authority and the client are governed by legislation and are to be read as a contract between the implementing agent (Contractor), the Client and the environmental authority (DEA). It is therefore crucial that the contractor, sub-contractor and developer adhere to its requirements, failure to do so can lead to penalties levied against the contractor, sub-contractor and the developer.

The project manager must institute contractual measurements to ensure that the contractors and sub-contractors adhere to the environmental obligations agreed upon.

3 RESPONSIBLE PERSON

A responsible person / Environmental Control Officer (ECO) shall be appointed, to ensure full compliance with the requirements of the Environmental Management Programme. The ECO should familiarise themselves with the contents of this document. The ECO will advise contractors on all environmental issues that are unclear. The ECO will further be responsible for the training of contractor and sub-contractor staff in terms of conveying the contents of this EMP to them through an induction process where after the contractors will sign acceptance and understanding of conditions. The ECO shall oversee the site layout and conduct a final compliance audit once construction is completed. From this site inspection a compliance report should be submitted to the Client and the DEA for control and comment purposes.

The ECO may at any time instruct a contractor/subcontractor to leave the site due to non-compliance to the conditions of the EMP.

4 INCIDENT REGISTERS AND REPORTING

An incident register must be kept on site at all times. This register must be maintained and any environmental incidents must be recorded in this register. The register must be made available for audits. The contractor will be responsible to ensure that the register is kept up to date. All environmental incidents must be reported to the responsible person (ECO), and the responsible contractor will sign the logging of the incident, to ensure that the information contained in the register is correct. The register must contain the date, time and place of the incident that took place. Remedial measure taken must also be mentioned in the register.

The ECO will audit the construction site, at a frequency not less than that indicated in the EA and will submit required reports to the project management team and lead environmental authority.

A complaints register is to be maintained, in the event of the public wishing to comment or complain regarding any construction activity.

5 AUDIT PROCESS

Upon the contractor induction, an audit check-list will be established using this EMP, the EA and any issues identified in the environmental assessment, as a guideline and will be signed by the relevant contractor to indicate understanding of the requirements.

Audits will be conducted with the contractor (or his/her representative) present and the completed audit will be signed by both the auditor and contractor (or representative).

Audit times should be arranged by agreement with not less than 24hours notice.

The contractor is invited to respond to any audit findings, particularly to provide rectification and audit item a close out plan.

6 SITE IMPACTS AND MITIGATION

6.1 VEHICLE ACCESS

Vehicle access to the site will be through the reserve entrance gate and from there via the approved site access. New or alternative site access roads are not to be constructed by the contractor. On site the contractor must use only the existing or planned roadways. There must be no driving off road.

The access roads should be closely monitored for signs of potential degradation during the course of the construction. The ECO will advise as to appropriate measures that may need to be taken to mitigate any road degradation should it be required.

All vehicles used by contractors and sub-contractors are to comply with the South African traffic ordinance. All drivers and vehicles shall be licensed and shall be in a road worthy condition and shall be well maintained. Vehicles are to be insured against accidents and third party liability. All vehicles shall undergo regular checks to ensure they are roadworthy and free of oil or other lubricant leaks. The ECO may at any time request the road worthy certificate of a vehicle, or for leaks to be repaired.

Contractors and sub-contractor drivers are to be courteous in all dealings with the public and guests on the reserve and shall adhere to all roadway signage and speed limits.

6.2 SITE SET-UP

The location of the site office, storage areas etc. will be at the existing Safari Lodge site. No site office or storage areas may be developed on the site.

Availability of ablution facilities should be at a ratio of 1 per 15 persons. If planned facilities (biobox package plant) can be used, this would be ideal. If not the most appropriate form of portable toilets must be erected

on site. The ECO will monitor the standard of hygiene and maintenance of the facilities throughout the duration of the build. It will be the contractor's responsibility to keep these facilities clean. Toilet paper is to be provided by the contractor. No pit latrines are permitted on the site. The use of the enviro-loo dehydration toilet is permitted.

6.3 SITE LAYOUT

The layout of the site, indicating the placement of the deck and access way, is to be done in conjunction with the ECO, Marataba section management and the project manager, prior to any vegetation clearing. The site to be impacted must be clearly marked and approved prior to any construction activities taking place, in order to ensure as little site clearance as possible. The construction site must be clearly marked with access and no-go areas. No contractors are allowed outside of the indicated access areas. Impact on a no-go area may incur a fine on the contractor.

6.4 PROTECTION OF FAUNA AND FLORA

Protected tree species cannot easily be transplanted and have therefore must be incorporated in the development design. Contractors have no right to trim, damage or destroy fauna and flora without the consent of the ECO and project manager. During site layout, shrubs / vegetation that may be removed will be marked and only these, will be removed. No removal of any other trees or shrubs will be permitted.

If a protected tree (National Forestry Act 84 of 1998) needs to be relocated, trimmed or impacted in any way, the ECO must be notified immediately so that the appropriate applications can be made to the relevant authorities (DAFF). Only with a licence from the authority can the identified action take place.

Should dead wood from a protected tree species, for example lead wood, be used in the construction of the deck, such wood should be appropriately licensed.

No foreign materials may be nailed or attached to any trees.

No firewood or any other plant material or animal may be collected, killed or removed from the site. The contractor will be held responsible for any illegal action by any of his staff members e.g. poaching, setting of snares, fishing etc.

6.5 SOCIAL - HERITAGE AND ECONOMIC

Should excavation activities reveal any human skeletal remains, broken pieces of pottery, large quantities of sub-surface charcoal or any material that can be associated with previous occupation, a qualified archaeologist should be notified immediately. This may temporarily halt such activities in the particular area until the archaeologist has assessed the situation.

Construction supervisors and contractors should be trained to recognise archaeological or cultural historical 'chance finds' during construction and such finds:

- Must not be disturbed, damaged or moved; and
- Will immediately be brought to the attention of the Environmental Control Officer and an archaeologist.

6.6 POLLUTION POTENTIAL

Cement has a high pH of 13 and cement wash and powder can destroy soil seed banks and aquatic life.

Noise pollution is likely to be a consideration during construction.

Dust pollution is likely to be associated with the construction.

Light pollution is not likely to be an impact during construction. The building design should take cognisance of the impact of light pollution and designs should eliminate unshielded (naked) lights.

Mitigation:

No **cement** mixing should be allowed on the bare ground. Cement must be mixed on an impervious surface such as a metal or wood sheet. If a cement mixer is used this should be placed on a plastic liner or similar in order to catch potential spills and overflow. Where possible, cement mixing should be undertaken in an area within the building footprint. Storm water contamination from cement mixing must be prevented (i.e. prevent storm water from washing into or out of a cement mixing area).

Waste water emanating from the cleaning of tools used for cement mixing and application should be contained and prevented from entering any storm water or river system. A suitable approach would be to store this waste water in drums, or similar suitable container, and use it for mixing cement and for re-wetting cement works. In the situation where wet or raw cement has come into contact with bare ground, the affected earth should be removed to a depth of 50mm and disposed of in either a registered land fill, or used as foundation fill / back fill in the construction site. Topsoil from appropriate source should be used to fill the scraping.

A thorough clean-up operation should be instituted to remove all the building debris from the entire construction area. The clean-up should only be considered complete after an inspection by the ECO. All material from this clean-op should be removed from site and disposed of in a registered land fill site. No construction teams should be allowed to build until they have undergone an environmental induction and have signed an Environmental Management Program contract that will ensure the building site is maintained in an environmentally sensitive condition.

Noisy machinery (pumps and generators) should have sound levels of less than 45dB. Working hours should be kept to normal working hours from 8am to 4pm or as per the reserve regulations.

Dust should be monitored and roadways should be wetted with water or a dust suppressant should traffic dust be a problem. Wetting of roads should not be to the extent that it causes erosion or runoff.

Artificial **Light** should not be used on site during construction. There shall only be construction during daylight.

6.7 SERVICES

Electricity will not be required to be laid to the sleep-out facility. The solar panels may, however, be located close to the platform and cables for this must be placed underground. The trenching process for this can impact the surrounding vegetation, cause erosion and destabilise the watercourse banks.

Water is to be sourced from the existing lodge supply and transported in a tanker.

Roads can become eroded and dangerous.

Solid waste will be produced during construction.

Sewage is to be led to a package plant a short distance from the platform. The pipes for this will be placed underground. The trenching process can impact the surrounding vegetation and cause cause erosion through destabilisation of the soil and channelling of storm water.

Mitigation:

Electricity and other services should be buried where possible. The placement of trenches must be approved by the ECO, prior to any vegetation clearing.

When excavating trenches, top soil and sub soils should be kept separate in order to facilitate the soils being replaced in the right order in trench closure. Topsoil, the upper 5-10cm of soil often contains the right amounts of humus and seeds to assist good rehabilitation of vegetation once the construction is finalised.

All services (water, sewage and power) can be combined in the same trench. Water should be buried at a minimum of one metre, if possible, to avoid elephant damage.

Contractors are to ensure that the cable and/or pipes to be installed in a trench are available on site before excavating the trench. Trenching should only be done for the length of services which can be installed in one day, no trenches should be left open overnight.

Water: The contractor will be responsible for making sure sufficient potable water is available for the workers. The ECO is to train contractors as to correct and safe water usage practices.

Hose pipes must be entire and are to be fitted with nozzles or taps at the discharge end to improve water saving. Watering should be strictly managed by the contractor, to ensure that hose pipes are not left unattended while delivering water.

Roads should have appropriate mitre drains and be maintained regularly.

A **solid waste** collection system should be in place and all waste which is collected should be disposed of in the existing waste disposal system. Waste sorting and recycling should be carried out where possible.

All bins must be scavenger proof and no waste is to be left on site overnight. Plastic refuse liners in the waste bins will assist in the removal of waste. There must be no littering; all refuse must be gathered for disposal. No waste is allowed to be buried or burnt on site.

Sewage: Sewage pipes must be buried at a minimum of 1m depth to avoid elephants digging them up.

6.8 VISUAL IMPACT

Visual impact of the site will need to be controlled during construction. Keep the building site orderly at all times.

Mitigation: Only minimal construction related infrastructure should be placed on site.

VEHICLE AND EQUIPMENT FUELLING AND MAINTENANCE

All vehicle fuelling and maintenance is to occur off-site in areas specifically maintained for these activities e.g. workshops and fuelling stations.

In the case of 'on-site' equipment, these may be fuelled on-site with the condition that the fuelling will take place over a suitable concrete or other impervious surface such as a spill tray to prevent fuel spillage onto the soil.

The servicing and repair of equipment is to take place in a workshop 'off site' specifically designed for this. In the event of an on-site emergency repair, the contractor will ensure that all work is conducted over an impervious layer preventing spillage of oils and fuels into the environment.

Sufficient absorbent materials and spill kits must be available to assist with clean-up operations.

6.9 SOIL PROTECTION, CONTAMINATION AND RESPONSE

In all processes where the soil is to be disturbed, it is essential that topsoil is separated from Overburden. In most cases the topsoil is clearly defined from the overburden by a colour change. If in doubt, the top 100mm may be considered as topsoil.

Topsoil removed can be stored in stockpiles not higher than 1.5 meters. This is to prevent anoxic conditions from occurring near the centre. The stock piles should be wetted occasionally, particularly during periods of no rain in order to maintain the micro-organisms.

The topsoil should be used as a primary rehabilitation measure as it contains the seedbank and micro-organisms related to the site. The topsoil, in rehabilitation, should be at least 50mm deep and careful watering as well as physical weed control should be implemented.

Should any soil contamination occur during construction, such contamination is to be reported to the ECO, immediately. Polluted soils must be remediated. This can usually be done *in situ* with appropriate hydrocarbon destroying microbes solution. If in situ remediation is not possible, the soil shall be removed and stored in an area determined by the ECO and shall be labelled as to the form of contamination to prevent its future use. After consultation with the project manager, the contaminated soil will be disposed of, in the manner determined by legislation.

6.10 PROVISION OF STORAGE FACILITIES FOR TOXIC MATERIALS

It is not anticipated that any such materials will be used for this development, but should the need arise materials must be stored as indicated on the label. The ECO will ensure that hazardous substances are stored in a way that ensures that potential spills will be contained and not generate any increased hazard. Paints, solvents and similar materials should be stored in bunds and within a secure building.

6.11 PROVISION OF STORAGE FOR CONSTRUCTION MATERIAL

The contractor will be responsible for the storage of construction material at a site determined in conjunction with the ECO and project management. Cement must be stored off the ground on pallets and under shelter from rain. No construction material may be stored on the sleep out platform site apart from limited quantities of sand and stone.

6.12 BORROW PITS AND QUARRIES

It is not anticipated that the use of borrow pits and quarries for the sourcing of materials will be necessary. No new borrow pits or quarries are to be created.

All materials for building must be sourced off site from sustainable and appropriately licensed source (sand, stone etc.).

6.13 SPOIL MATERIAL

All spoil material shall be disposed of in accordance with legislation. No spoil material will be left on site at completion of the project and the potential reuse of any material (excess crushed stone, sand etc) should be investigated.

6.14 STORMWATER MANAGEMENT

No obstructions of any storm water system will be allowed and the dumping of water used for the cleaning of equipment will also not be permissible.

Only level areas are to be used for stockpile zones and care is to be taken to prevent the stockpiling of materials in drainage lines. The ECO will assist in determining these areas.

6.15 GROUNDWATER MANAGEMENT

No impact or management requirements are anticipated in terms of groundwater.

6.16 LITTERING

In terms of the Environmental Conservation Act, No 73 of 1989, no littering by the contractors or sub-contractors shall be allowed. The ECO shall monitor the neatness of the work-site for the duration of the project.

6.17 COMMUNICATION

It is essential that communication channels between the contractor, ECO, site manager and client be maintained in good order. It is proposed that fortnightly meetings be had between the relevant parties for the duration of the project.

6.18 SIGNAGE

A single signboard may be erected on the development site by the relevant lead contractor indicating the details of the project and the contact details of the contractor as well as emergency telephone numbers.

REHABILITATION OF THE DEVELOPMENT

On completion of construction, the development will be rehabilitated, by the contractor, through the removal of all construction facilities introduced, removal of waste and any other feature constructed or established during the use of the site.

All areas disturbed by the construction activities, including stockpile areas and spoil dumps, must be rehabilitated as soon as possible.

6.19 DISASTER MANAGEMENT PROCEDURES

Disasters are a constant treat when working on construction sites.

Fire

No open fires will be allowed on the construction site or in the veld under any circumstances. No cooking is to be done on site.

It will be expected by all contractors to indicate their ability to fight accidental fires, through having serviced and fully functional equipment on site in the event of accidental fires. The ECO will determine the level of equipment and training required by the contractors.

Care must be exercised when using equipment such as welders and grinders that these do not cause accidental fires.

Medical disaster

The site is in proximity to medical care for injuries on duty or evacuation in the case of serious illness. The contractor should never the less develop and maintain a medical disaster management procedure that will be communicated to all staff and a copy provided to the ECO. A first aid kit must available on site at all times.

Dangerous Animals

The project manager, reserve manager and contractors shall establish protocols to follow should dangerous animals wander onto the site.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF EAP AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/
NEAS Reference Number:	DEA/EIA/
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, 2014

PROJECT TITLE

Marataba Lodge sleep-out platform

Environmental Assessment Practitioner (EAP):[1]	Mette Stavnsbo Rossaak		
Contact person:			
Postal address:	PO Box 507, WHITE RIVER		
Postal code:	1240	Cell:	082 3399 627
Telephone:	013 750 2782	Fax:	086 675 4320
E-mail:	mette@emross.co.za		
Professional affiliation(s) (if any)	IAIAsa, ICB-EAPASA		

Project Consultant:			
Contact person:			
Postal address:			
Postal code:		Cell:	
Telephone:		Fax:	
E-mail:			

4.2 The Environmental Assessment Practitioner

I, Mette Stavnsbo Rossaak , declare that –

General declaration:

I act as the independent environmental practitioner in this application

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Act, regulations and all other applicable legislation;

I will take into account, to the extent possible, the matters listed in regulation 8 of the regulations when preparing the application and any report relating to the application;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;

I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;

I will keep a register of all interested and affected parties that participated in a public participation process; and

I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not

all the particulars furnished by me in this form are true and correct;

will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and

I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;

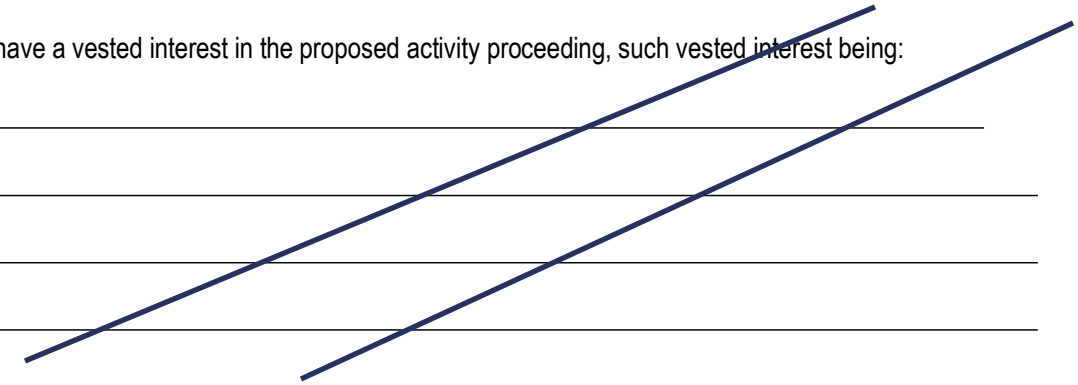
I have a vested interest in the proposed activity proceeding, such vested interest being:

_____

_____

_____

_____



Signature of the environmental assessment practitioner:

EMROSS Consulting (Pty) Ltd.

Name of company:

5 September 2016

Date:

The Interim Certification Board

for

Environmental Assessment Practitioners
of
South Africa

Mette Stavnsbo Rossaak

was certified as an

ENVIRONMENTAL ASSESSMENT PRACTITIONER

on this 21st day of September 2010

Chairperson

Secretary

IAIAsa Secretariat
Tel +27(0)11 655 7183
Fax 086 662 9849
Address:
43 Birchwood Court, Montrose Street, Vorna Valley, Midrand, 1618
Postal address:
PO Box 11666, Vorna Valley, 1686
Email: operations@iaiasa.co.za
Website: www.iaiasa.co.za

International Association for Impact Assessment
South Africa

IAIAsa Confirmation of Membership: 2016/2017
Mette Rossaak Membership Number: 1835

27 July 2016

TO WHOM IT MAY CONCERN

Mrs Mette Rossaak, Suricata Environmental Consulting (IAIAsa membership Number 1835) is a paid-up full member in good standing of the South African Affiliate of the International Association for Impact Assessment and has been a member of IAIAsa since 3 January 2007.
Memebership has been continous from 3 January 2007 to date.

This membership is valid from 1 July 2016 to 30 June 2017.

IAIAsa is a voluntary organisation and is not a statutory body regulating the profession. Its members are however expected to abide by the organisation's code of ethics which is available on our website.

Any enquiries regarding this membership may be directed to the Secretariat at the above contact details.

Yours Sincerely

Janice Tooley
IAIAsa President 2016/2017

Curriculum vitae for Mette Stavnsbo Rossaak

Personal and contact details

Name:	Mette Stavnsbo Rossaak ne´ Nielsen
Date of birth:	30 March 1973
Residence:	White River, South Africa
Postal address:	P.O. Box 1309, White River, Mpumalanga, 1240
Tell:	+27 13 750 2782

Key skills

- Environmental assessment and project management (planning and implementation);
- Development of environmental management or monitoring programmes;
- Environmental control monitoring and compliance auditing;
- Sustainability services;
- Managing public participation and community consultation;
- Owning and managing all aspects of an environmental consulting company

Education

Institution (Date from - Date to)	Degree(s) or Diploma(s) obtained:
University of Pretoria, South Africa (2009)	Courses on Environmental Management, Environmental Law and Air Quality Assessment
University of Pretoria, South Africa (2003 - 2005)	BSc Hons (Botany)
Roskilde University Centre, Denmark (1998-2002)	BSc (Environmental Biology)

Courses and conferences attended:

- Mpumalanga Invasive Species Forum – Seminar on Invasive Species Management Legislation (2015);
- Global Reporting Initiative – GR3 and GR4 Training Programme (2013);
- IAIAsa course on “Upping the EIA game” (2013);
- IAIAsa 2012 Conference – Urban Evolution. (2012);
- National Association for Clean Air Seminar on Air Quality Legislation (2011);
- Women and Environment Conference (2006) chaired one session;
- Department of Water Affairs - Short Course on Wetland Delineation (2004)

Language skills

Language	Reading	Speaking	Writing
Danish	Mother Tongue		
English	fluent	fluent	fluent

Membership of professional bodies

- Interim Certification Board for Environmental Assessment Practitioners of South Africa – registered EAP since 2010;
- Member of IAIAsa (International Association for Impact Assessment) since 2007;

Volunteer Work

- Member of Environmental Committee – Uplands Preparatory School, White River (2014 – present);
- Regional Committee Member of IAIAsa Mpumalanga (2007-2014) Chairperson for Region 2012-2014;
- Regional Committee member Wildlife and Environmental Society of South Africa (2003-2008).

Present position

Partner of Emross Consulting – since December 2006

Emross seek cost effective, sustainable, environmentally sound solutions. In the past 10 years I have completed over 100 projects. These include environmental impact assessments, environmental control officer services, environmental compliance audits, “section 24G” environmental rectification applications and development of environmental management / monitoring programmes.

Key experience and qualifications

- More than 10 years of professional consulting experience;
- More than 10 years of experience with managing my own business;
- Extensive conduct and management of environmental impact assessments, particularly in sensitive or conservation areas;
- Environmental auditing and control officer services; and
- Public participation and community consultation.
- Broad range of clients from individuals to national corporations and government entities.

Employment history

Emross Consulting – Junior environmental assessment practitioner (May 2005 to December 2006)
Reference person: Butch Rossouw – Wrossouw@pb.com.au
Transvaal Gold Mining Estate (Simmer & Jack Mines) - Environmental Control Officer (October 2006 – January 2008)
Emross and Suricata – 2005 to present

Additional information

Any additional information as well as certificates of courses or education can be provided upon request.

Project experience (selected projects)

Date from - date to	Company & Reference Person	Position	Description
Dec 2015 - present	Manganese Metal Company Nelspruit Racquel Perumala Tel: +27 13 759 4634 E-mail: Racquel.Perumala@mmc.co.za	External Auditor	Conducting quarterly and annual compliance audits against waste management license and environmental authorisation.
2015 - present	Lion Sands Game Reserve Jakkalsbessie Concession, Kruger National Park Ronnie Borrageiro Tel: +27 13 735 5000 E-mail: ronnie@lionsands.com	External Auditor	Conducting bi-annual compliance audits against environmental authorisation and public private partnership agreement. Ad hoc environmental consulting services regarding environmental legal compliance in the areas of environment, waste and water.
2013 - present	Singita Lebombo and Sweni Lodges N'Wanetsi Concession Kruger National Park Grant Oliver Tel: +27 13 735 5500 E-mail: grant.o@singita.com	External Auditor	Conducting bi-annual compliance audits against environmental authorisation and public private partnership agreement. Ad hoc environmental consulting services regarding environmental legal compliance in the areas of environment, waste and water.
2013 - present	Klaserie Private Nature Reserve Colin Rowles Tel: +27 15 793 3051 manager@klaseriereserve.co.za	EAP	Legal compliance assessments, applications for impact to protected trees and other environmental services
2013 to 2016	Shuma Africa Projects Mbombela Local Municipality Gilbert Mukhudwane Mobile: +27 82 788 1135 E-mail: gilbert@shumaafrica.co.za	EAP/ ECO	Conducting environmental impact assessment for water course crossings during road upgrade, including development of environmental management programme. Conducting monthly environmental compliance audits during implementation of project.
2015	Kruger National park Tracy Lee Petersen Tel: +27 13 735 4271 Tracy.petersen@sanparks.org	EAP	Application for rectification environmental authorisation and waste management license. Kruger National Park, Skukuza Waste Management Facility
2012 - present	Londolozi Private Game Reserve Sabi Sand Nature Reserve Chris Goodman chrisgoodman@londolozi.co.za	EAP	Various environmental impact assessments, environmental management programmes and ad hoc environmental consulting on all aspects.
2014	Singita Boulders and Ebony Lodges Sabi Sand Nature Reserve Marianda Horley Marianda.h@singita.com	EAP	Various environmental impact assessments, environmental management programmes and monthly environmental compliance inspections during construction.

2014	Hull - Klaserie Private Nature Reserve Jessica Slack / Sean Fairhead ntoma@telkomsa.net	EAP	EIA for a low impact, sustainable river crossing in a protected area
2014	Singita Sabi Sand Sabi Sand Nature Reserve Ronel Kennedy Ronel.K@singita.com	EAP	Environmental impact assessment for community education centre
2014	Lion Sands Sabi Sands Nature Reserve Andre Morgan andre@more.co.za	EAP	Environmental impact assessment for lodge expansion and refurbishment in protected area
2014	Sabi-Sabi Sabi-Sands game reserve Rod Wyndham bushmanager@sabisabi.com	EAP	EIA for bush sleep out platform in protected area
2014	Buffelshoek, Sabie Sands Sidney Frankel sfrankel@frankels.co.za	EAP	Review of Buffelshoek environmental compliance and water use licencing
2013	Chitwa Chitwa Lodge, Sabie Sands. Charl Brink 013 735 5357 charl@chitwa.co.za	EAP & ECO	Environmental Basic Assessment for Chitwa Tented Lodge – Sabi Sands Private Game Reserve and Environmental Compliance Monitoring
2013	Klaserie Private Nature Reserve Colin Rowles 015 793 3051 manager@klaseriereserve.co.za	Expert	EMP for the maintenance of water course crossings in the Klaserie Private Nature reserve
2013	Control Gate Company Mike Vlok 015 793 3031 mike.vlok@super.web.za	Expert	EMP for the maintenance of water course crossings on the Control Gate Company road
2013	Ingwelala Shareblock John Llewellyn 015 793 1242 reception@ingwelala.co.za	Expert	EMP for the maintenance of water course crossings at Ingwelala
2011	Singita KNP Peter Sawyer 013 735 5500 peter.s@singita.com	Environmental expert	Water-use Audit Singita Lebombo Lodge, KNP
2008	Ulusha Projects Johan Zietsman 013 752 5898 johan.z@mweb.co.za	Environmental expert	Lowveld Plantations Exit Review Study – Ecological component. Client: *Department of Water* Affairs *and Forestry*

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

(1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and

(2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

PROJECT TITLE

Marataba Lodge sleep out platform

Specialist:	Mr Frits van Oudtshoorn		
Contact person:	Same		
Postal address:	PO Box 2779, Modimolle		
Postal code:	0510	Cell:	078 228 0008
Telephone:	078 228 0008	Fax:	086 531 6075
E-mail:	frits@alut.co.za		
Professional affiliation(s) (if any)	Grassland society of SA		

Project Consultant:	Emross Consulting		
Contact person:	Mette Rossaak		
Postal address:	PO box 1309, White River		
Postal code:	1240	Cell:	0823399627
Telephone:	0137502782	Fax:	0866754320
E-mail:	mette@emross.co.za		

4.2 The specialist appointed in terms of the Regulations_

I, FP van Oudtshoorn , declare that –

General declaration:

I act as the independent specialist in this application;

I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;

I declare that there are no circumstances that may compromise my objectivity in performing such work;

I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;

I will comply with the Act, Regulations and all other applicable legislation;

I have no, and will not engage in, conflicting interests in the undertaking of the activity;

I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;

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 48 and is punishable in terms of section 24F of the Act.

Signature of the specialist: 

Name of company (if applicable): Working on Grass

Date: 15 September 2016

environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

DETAILS OF SPECIALIST AND DECLARATION OF INTEREST

	(For official use only)
File Reference Number:	12/12/20/ or 12/9/11/L
NEAS Reference Number:	DEA/EIA
Date Received:	

Application for integrated environmental authorisation and waste management licence in terms of the-

(1) National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended and the Environmental Impact Assessment Regulations, 2014; and

(2) National Environmental Management Act: Waste Act, 2008 (Act No. 59 of 2008) and Government Notice 921, 2013

PROJECT TITLE

Marataba Lodge sleep out platform

Specialist:	Cultural Heritage		
Contact person:	FP Coetzee		
Postal address:	99 Van Deventer Street, Pierre van Ryneveld, Centurion		
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Telephone:	0124296297	Fax:	0124296091
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Professional affiliation(s) (if any)	Registered member of Association of Southern African Professional Archaeologists (ASAPA) (Reg. No. 28) and the CRM section of the association. Also registered with SAHRA and AMAFA.		

Project Consultant:	Emross Consulting		
Contact person:	Mette Rossaak		
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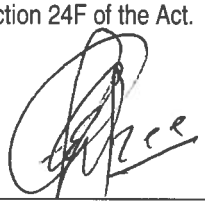
Telephone:	0137502782	Fax:	0866754320
E-mail:	mette@emross.co.za		

4.2 The specialist appointed in terms of the Regulations_

I, FP Coetzee , declare that --

General declaration:

I act as the independent specialist in this application;
I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
I declare that there are no circumstances that may compromise my objectivity in performing such work;
I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
I will comply with the Act, Regulations and all other applicable legislation;
I have no, and will not engage in, conflicting interests in the undertaking of the activity;
I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
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 48 and is punishable in terms of section 24F of the Act.



Signature of the specialist:

Name of company (if applicable):

Date: 31/10/2016