

BASIC ASSESSMENT REPORT

In terms of Section 24 and 24(D) of NEMA (Act No. 107 of 1998)

for:

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED CLEARANCE OF 6 174 SQUARE METERS OF INDIGENOUS VEGETATION, LOCATED WITHIN A TERRESTRIAL CBA 2 AND AN AQUATIC CBA 1 IN ORDER TO ESTABLISH A CLINIC, LOCATED ON PORTION 64 (PORTION OF PORTION 1) OF THE FARM BUFFELSPOORT NO. 343-J.Q., NORTH WEST PROVINCE.

Report Date: March 2023



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Report Status	Draft Basic Assessment Report		
Project Title	<i>Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.</i>		
Competent Authority:	North West Department of Economic Development, Environment, Conservation and Tourism		
Reference Number:	Not Available yet		
Assigned Officer	Not Available yet		
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EXECUTIVE SUMMARY

Tharisa Minerals Proprietary Limited has appointed **AB Enviro Consult CC**, an independent environmental consultancy, to undertake an Environmental Impact Assessment for the proposed clearance of 6 174 square meters ha of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1, in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the number of employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently it is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The mine has since bought more Properties south of the N4 and these sites were identified as potential locations for the Medical Centre. Two alternative sites were considered.

- Option 1 – Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province
- Option 2 – Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – Opposite Tharisa Quarantine / Conference facility)

The following was found:

Option 1 - Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide “One” facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification.

Option 2 - Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – This Property is located opposite the Tharisa Quarantine / Conference facility – this facility was deemed to not be suitable as it is located on a steep slope with rocky outcrops.

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality

The activity is listed in terms of the Regulations (in force since 4 December 2014) in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (NEMA) 1998 (Act 107 of 1998) as amended. The proposed development triggers the following regulations and listed activities:

Indicate the number and date of the relevant notice:	Activity No (s) and Activity Description (in terms of the relevant notice)	Describe each listed activity as per project description	Anticipated years to complete construction (From date of commencement)
GN.R. 324, 7 April 2017 (As amended)	12 (h)(iv)	The proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.	10 years

The detailed environmental assessment for the proposed development, has not found any environmental impacts that *cannot* be mitigated to acceptable and manageable levels.

Consistent with national priorities, environmental authorities must support "*increased economic growth and promote social inclusion*", whilst ensuring that such growth is "*ecologically sustainable*". In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

A full Public Participation Process is being conducted and any objections or comments that will be received in relation to the proposed development will be incorporated into the Final BAR.

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1. INTRODUCTION

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1.1 THE BASIC ASSESSMENT PROCESS

The purpose of this document is to adhere to the requirements for compilation of Basic Assessment Reports as amended and published in Government Notice R. 326 of 7 April 2017, Appendix 1, and the National Environmental Management Act (Act 107 of 1998) (NEMA).

1.2 DESCRIPTION OF THE PROCESS FOLLOWED

In order to assess a proposed development it is important to take into consideration the principles of NEMA. These principles are outlined in Chapter 1 and read as follows:

- 1) *"The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and—*
 - a. *shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination;*
 - b. *serve as the general framework within which environmental management and implementation plans must be formulated;*
 - c. *serve as guidelines by reference to which any organ of state must exercise any function when taking any decision in terms of this Act or any statutory provision concerning the protection of the environment;*
 - d. *serve as principles by reference to which a conciliator appointed under this Act must make recommendations; and*
 - e. *guide the interpretation administration and implementation of this Act, and any other law concerned with the protection or management of the environment.*
- 2) *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.*
- 3) *Development must be socially, environmentally and economically sustainable.*
- 4) (a) *Sustainable development requires the consideration of all relevant factors including the following:*
 - (i) *That the disturbance of ecosystems and loss of biological diversity are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (ii) *that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;*
 - (iii) *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;*
 - (iv) *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;*
 - (v) *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;*
 - (vi) *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;*
 - (vii) *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*

- (viii) *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.*
- (b) *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.*
- (c) *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.*
- (d) *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.*
- (e) *Responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.*
- (f) *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.*
- (g) *Decisions must take into account the interests, needs and values of all interested and affected parties, and this includes recognizing all forms of knowledge, including traditional and ordinary knowledge.*
- (h) *Community wellbeing and empowerment must be promoted through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means.*
- (i) *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.*
- (j) *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.*
- (k) *Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.*
- (l) *There must be intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to the environment.*
- (m) *Actual or potential conflicts of interest between organs of state should be resolved through conflict resolution procedures.*
- (n) *Global and international responsibilities relating to the environment must be discharged in the national interest.*
- (o) *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.*

- (p) *The costs of remedying pollution, environmental degradation consequent adverse health effects and of preventing, controlling or minimizing further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.*
- (q) *The vital role of women and youth in environmental management and development must be recognised and their full participation therein must be promoted.*
- (r) *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.”*

The above mentioned principals and the applicable legislation, Policies and Guidelines as described in Paragraph 5 of this Report were taken into account in the assessment of the Environmental Impacts for the proposed development. The process followed can be described as follows:

- 1) The EAP was contracted by Tharisa Minerals Proprietary Limited as his Independent Environmental Assessment Practitioner.
- 2) A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- 3) A Fauna and Flora Habitat specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- 4) An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- 5) Desk top studies were conducted and alternatives assessed.
- 6) Site inspections were carried out to verify the outcomes of the desktop studies, and the preferred alternative defined.
- 7) A full Public Participation Process is being followed to obtain inputs from interested and affected parties.
- 8) All the information obtained from the above mentioned processes is being used to assess the Environmental Impact that the proposed development may have on the Environment and vice versa.
- 9) The inputs from Specialists, interested and affected parties, together with the knowledge of the EAP is being used to determine measures to avoid, mitigate and manage potential impacts. These measures are described in the Environmental Management Programme.

1.3 ASSESSMENT PHASE

The assessment phase included the necessary investigations to assess the suitability of the identified site and its surrounding environment, for the development proposal. The assessment phase described the “status quo” of the bio-physical, social, economic and cultural environment, and identifies the anticipated environmental aspects associated with the proposed development. The assessment phase included the identification of *key interest groups*, (both government and non-government), and strived to establish efficient and effective communication. Identifying and informing Interested and affected parties of the proposed development may have an impact on the focus of the EIA. (S. Cliff, 2015).

This phase also determines the *significance of the impact* of the proposed activity on the surrounding Environment. During this phase, a Basic assessment Report (BAR) is compiled, and, following public review, is submitted to the approving authority – the DEDECT.

The purpose of the Basic Assessment Report is to document the outcome of the Assessment Phase of the project. The report fulfilled the requirements of the EIA Regulations (2014) for the documentation of the Basic Assessment Process. The Report

was compiled in accordance with Section 21(3) of NEMA's 2014 EIA Regulation (GN R. 982) as amended and published in Government Notice R. 326 of 7 April 2017.

1.3.1 Objective of the basic assessment process

The objective of the basic assessment process is to, through a consultative process-

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives;
- (d) through the undertaking of an impact and risk assessment process, inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine—
 - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
 - (ii) the degree to which these impacts—
 - (aa) can be reversed;
 - (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated;
 - (cc) can be avoided, managed or mitigated; and
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
 - (i) identify and motivate a preferred site, activity and technology alternative;
 - (ii) identify suitable measures to avoid, manage or mitigate identified impacts; and
 - (iii) identify residual risks that need to be managed and monitored.

1.3.2 Scope of assessment and content of basic assessment reports

The BAR assesses those identified potential environmental impacts and benefits (direct, indirect and cumulative impacts) associated with the project design, construction, and operation phases, and recommends appropriate mitigation measures for potentially significant environmental impacts. The Environmental impacts are assessed both before and after mitigation to determine:

- The significance of the impact despite mitigation; and
- The effectiveness of the proposed mitigation measures.

The BAR addresses potential environmental impacts and benefits associated with all phases of the project, including design, construction and operation, and aims to provide the environmental authorities with sufficient information to make an informed decision regarding the proposed project.

Table 1 below provides a summary of the legislative requirements in terms of a Basic Assessment Report as stipulated in Section 23 of the 2014 EIA Regulation (GN R. 982) as amended. Cross-references are provided in terms of the relevant section within this BA Report where the NEMA and BA Report requirements have been addressed.

Table 1: Basic Assessment Report content as per Section 23 of NEMA's 2014 EIA Regulation (GN R. 982) as amended Appendix 1.

3. (1) A basic assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include:

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
Appendix 1, section 3 (a)	Details of the EAP who prepared the report; and the expertise of the EAP;	Paragraph 2
Appendix 1, section 3 (b)	The location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report, including – (i) The 21 digit Surveyor General code of each cadastral land parcel; (ii) Where available, the physical address and farm name; (iii) Where the required information in items (i) and (ii) is not available, coordinates of the boundary of the property or properties	Paragraph 4 Paragraph 4 Paragraph 4
Appendix 1, section 3 (c)	A plan which locates the proposed activity or activities applied for, at an appropriate scale, or, if it is – (i) A linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) On land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Appendix A1 and Appendix A2 Paragraph 4
Appendix 1, section 3 (d)	A description of the scope of the proposed activity, including – (i) all listed and specified activities triggered and being applied for; and (ii) a description of the activities to be undertaken including associated structures and infrastructure;	Paragraph 3 Paragraph 3
Appendix 1, section 3 (e)	A description of the policy and legislative context within which the development is proposed including (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and (ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments explanation of how the proposed development complies with and responds to the legislation and policy context	Paragraph 5.1 Paragraph 5.2 Paragraph 5.2
Appendix 1, section 3 (f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location.	Paragraph 6
Appendix 1, section 3 (g)	a motivation for the preferred site, activity and technology alternative	Paragraph 4
Appendix 1, section 3 (h)	A full description of the process followed to reach the proposed preferred alternative within the site, including- (i) Details of all alternatives considered; (ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (v) The impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which the impacts- (aa) can be reversed;	Paragraph 8 Paragraph 10 Paragraph 10 Paragraph 8 Paragraph 9 Paragraph 9

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
	<p>(bb) may cause irreplaceable loss of resources; and</p> <p>(cc) can be avoided, managed, or mitigated.</p> <p>(vi) The methodology used in deterring and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives;</p> <p>(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographic, physical, biological, social, economic, heritage and cultural aspects;</p> <p>(viii) The possible mitigation measures that could be applied and level of residual risk;</p> <p>(ix) the outcome of the site selection matrix</p> <p>(x) If no alternatives, including alternative footprints for the activity were investigated, the motivation for not considering such and;</p> <p>(xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity.</p>	<p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Not Applicable</p> <p>Paragraph 12</p>
Appendix 1, section 3 (i)	<p>A full description of the process undertaken to identify, assess and rank the impacts the activity will impose on the preferred location through the life of the activity, including-</p> <p>(i) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and</p> <p>(ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;</p>	<p>Paragraph 9</p> <p>Paragraph 8</p> <p>Paragraph 9</p>
Appendix 1, section 3 (j)	<p>An assessment of each identified potentially significant impact and risk, including-</p> <p>(i) cumulative impacts;</p> <p>(ii) the nature, significance and consequences of the impact and risk;</p> <p>(iii) the extent and duration of the impact and risk;</p> <p>(iv) the probability of the impact and risk occurring;</p> <p>(v) the degree to which the impact and risk can be reversed;</p> <p>(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and</p> <p>(vii) the degree to which the impact and risk can be mitigated;</p>	<p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p> <p>Paragraph 9</p>
Appendix 1, section 3 (k)	<p>Where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;</p>	<p>Paragraph 11</p>
Appendix 1, section 3 (l)	<p>An environmental impact statement which contains-</p> <p>(i) a summary of the key findings of the environmental impact assessment;</p> <p>(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers; and</p> <p>(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;</p>	<p>Paragraph 12.2 and 12.2 Figure 2</p> <p>Paragraph 12</p>

Section of the EIA Regulations, 2014	Description of EIA Regulations Requirements for Basic Assessment Reports	Location in this report
Appendix 1, section 3 (m)	Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr	Paragraph 11 and 12
Appendix 1, section 3 (n)	Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation	Paragraph 3.1.2.1
Appendix 1, section 3 (o)	A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed	Paragraph 1.4.3
Appendix 1, section 3 (p)	A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation	Paragraph 12.4
Appendix 1, section 3 (q)	Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised	Not Applicable
Appendix 1, section 3 (r)	An undertaking under oath or affirmation by the EAP in relation to- (i) The correctness of the information provided in the report; (ii) The inclusion of the comments and inputs from stakeholders and interested and affected parties; and (iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and (iv) Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties.	Paragraph 13 Paragraph 13 Paragraph 13 Paragraph 13
Appendix 1, section 3 (s)	Where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts.	Not Applicable
Appendix 1, section 3 (t)	Any specific information that may be required by the competent authority.	Not Applicable
Appendix 1, section 3 (u)	Any other matters required in terms of section 24(4)(a) and (b) of the Act	Not Applicable

1.3.3 Assumptions, uncertainties, limitations and gaps in knowledge:

This report is based on current available information and, as a result, the following limitations and assumptions are implicit –

The report is based on the *project description* provided by the Applicant as a result of reports that was compiled by the following Specialists:

- A Fauna and Flora Habitat specialist has been appointed to determine the impact of the proposed development on the Fauna and Flora of the area.
- A SAHRA Specialist has been appointed to determine the possible impact of the development on Archaeological and Cultural features.
- An Environmental Screening Process was conducted by the EAP to ensure that all the relevant Environmental Legislation is taken into consideration.
- Desktop studies were conducted and alternatives assessed.

Descriptions of the biophysical and social environments are based on specialist fieldwork, investigations, and the Public Participation Process.

2. DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

AB Enviro Consult (CC) is a registered consultancy, owned and operated as an independent unit by the registered owner and consultant: **Prof. A.B. de Villiers. Mr J.P. De Villiers** joined the consultancy during 2004 and **Mrs J.E. du Plooy** is a consultant since 2001.

Over a period of 27 years (1996-2023) this consultancy has successfully applied for, and obtained positive ROD's and EA's for more than 380 projects. Environmental Control Officer's duties are also performed on various projects.

ACADEMIC AND PROFESSIONAL QUALIFICATIONS OF PROF DE VILLIERS

Post-Matric Qualifications

YEAR	Qualification	Institution	Field of Study
1968	B.Sc.	PU FOR CHE	Geography, Geology
1970	HONNS. B.Sc.	PU FOR CHE	Soil Science
1974	M.Sc.	PU FOR CHE	Geography
1981	Ph.D.	UOFS	Geography

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MR J.P. DE VILLIERS

YEAR	Qualification	Institution	Field of Study
1993	BA	PU FOR CHE	Geography, Economics
1994	HED	PU FOR CHE	Geography Economics
2006	B.Sc.(Honns) Cum Laude	North-West University	Environmental Management
2007	M.Sc.	North-West University	Geography

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

YEAR	Qualification/ Registration	Institution	Field of Study
2008	Basic Principles of Ecological Rehabilitation and Mine Closure	Centre for Environmental Management (North West University)	Ecological Rehabilitation
2019	Registered Environmental Assessment Practitioner 2019/808	Environmental Assessment Practitioners of South Africa	

CV: Mr JP de Villiers

JP de Villiers holds a M.Sc. in Geography from the North West University's Department of Geography and Environmental Management. He started as a junior EAP in 2004 with AB Enviro Consult and was promoted in 2007 to senior EAP. During 2011 he was appointed as the Manager of the North West University, EIA Pro-Bono Office. This office is an initiative of, and funded by, the DEA. (This was a three year contract between DEA and NWU that was extended by one year) As Manager of this office, Mr. de Villiers had the following responsibilities:

- Conduct Environmental Impact Assessments for municipalities on a pro-bono basis.
- Provide environmental management training to North West Municipalities.
- Provide environmental assistance to North West Municipalities.
- Undertake research related to Environmental Impact Management within the North West Municipal Context.

- Marketing for stakeholder 'pro-bono' expert donations.
- Marketing for corporate 'pro-bono' funding.

As EAP, Mr. de Villiers has been directly involved in obtaining **309 Environmental Authorizations** and has performed the duties of **Environmental Control Officer (ECO) for 42 developments**. His responsibilities as Senior EAP includes the following:

Duties pertaining to Basic Assessments, EIA and Scoping and Section 24 G Applications:

- Marketing and communication with clients
- Communication with authorities, source and analyse relevant baseline information and undertake site inspections
- Compile Environmental Application Form for the project and submit to the authorities
- Compile an *information requirements list* that is distributed to the project team. The Information required would assist with completion of the Report.
- Identify key interested and affected parties (I&APs)
- Compilation of terms of reference for specialist studies
- Commission specialist studies
- Compile and publish media notices in relevant newspapers
- Compile and place poster/s along the boundary of the site
- Hold a public meeting / Open House / focus meeting with I&APs
- Receive and address comments from public
- Undertake assessment phase by assessing and evaluating potential impacts identified.
- Review and manage specialist studies.
- Compile and distribute Draft Reports (Including Environmental Management Programmes)
- Should the Reports require substantial changes, these changes are incorporated into the final reports and distributed
- Address comments received on the final Report, finalise Report and submit to authorities
- Once the decision is issued, all I&Ps are formally informed of the decision

Duties pertaining to Environmental Control Officer

- Preparation (Compilation) and submission of Environmental Control Document.
- Training of and leasing with the Engineers Representative.
- Communicate with the Contractor.

- A monthly visit to the site during the construction period. Should any Environmental incident occur, an immediate site visit is undertaken.
- Monitoring and auditing according to the approved EMP and EA.
- Compilation of a written audit report for each site visits during the construction phase
- Liaising with the Compliance section of the Competent Authority

ACADEMIC AND PROFESSIONAL QUALIFICATIONS MRS J.E. DU PLOOY

<u>YEAR</u>	<u>Qualification</u>	<u>Institution</u>	<u>Field of Study</u>
1999	BA	PU FOR CHE	Geography, Tourism
2000	BA (Honns) Cum Laude	PU FOR CHE	Geography
2003	Masters degree in Environmental Management	PU FOR CHE	Environmental Management
2001	Aquabase Intro	AQUABASE	Hydrology
2001	Geomedia Professional	INTERTECH	GIS
2001	Map Info	SPATIAL TECHNOLOGY	GIS

PROFESSIONAL QUALIFICATIONS AND REGISTRATIONS

<u>YEAR</u>	<u>Qualification/ Registration</u>	<u>Institution</u>
2020	Registered Environmental Assessment Practitioner 2019/1573	Environmental Assessment Practitioners of South Africa

3. DESCRIPTION OF THE ACTIVITY

The proposed development will be for the establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province. In order to establish the proposed development 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be cleared. The total development footprint will be 2,2489 ha. A Fauna and Flora Habitat Specialist has been appointed to assess the sensitivity of the site and to determine the extent of indigenous vegetation that will be removed. As most of the site has been used for residential purposes and gardens, the assessment revealed that of the 2,2489ha that the development entails, only 0,8851 ha can be defined as indigenous vegetation. Please see Figure 1 below for a copy of the proposed layout plan and Figure 2 for a sensitivity map generated by the Specialist.

Although the existing / temporary facility was developed to accommodate all required medical needs, new Engineering Designs and Concept Drawings was done for the new Proposed Clinic. All stakeholders, medical personal and Platinum health Personal was involved in designing a more practical Clinic Flow. The design and layout of the new clinic was developed to be practical and able to accommodate the required employees and patients during medicals and additional treatment if required. It will also include a 24/7 emergency facility. The design includes placement of critical areas, such as the Reception area, Vitals, "Hearing Testing", X – Rays, archives, 24/7 treatment facility, consulting Rooms, Filing and storage facilities, Ablution / Toilet facility and IT Server Room.

The proposed development will make provision for the following:

- Clinic (702,29m²) with:
 - Waiting area
 - X-ray room
 - Consulting rooms
 - Emergency room (24/7)
 - Eye test room
 - Hearing audio room
- Ablution facility (104,90m²)
- Guard / gate house (for entrance and exit control)
- Parking area and ambulance parking (interlock brick paved drive-way)
- Medical waste storage
- Four (4) filling containers.
- Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the number of employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently it is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity

to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The mine has since bought more Properties south of the N4 and these sites were identified as potential locations for the Medical Centre. Two alternative sites were considered.

- Option 1 – Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province
- Option 2 – Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – Opposite Tharisa Quarantine / Conference facility)

The following was found:

Option 1 - Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide “One” facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification.

Option 2 - Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – This Property is located opposite the Tharisa Quarantine / Conference facility – this facility was deemed to not be suitable as it is located on a steep slope with rocky outcrops.

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality

In terms of the Rustenburg Land Use Scheme, 2021, the usage “Clinic” is defined as follows:

“Means a permanently equipped medical facility providing a range of primary health care services for the treatment of day patients with no overnight accommodation which may include ancillary uses and also include concepts like day hospitals and day medical theatres and procedure rooms”.

The intention is to demolish the existing dwelling house. A Heritage consultant has been appointed to determine the age of the structures on site. It was determined that none of the structures are older than 60 years and as such does not need a Permit from SAHRA prior to demolition.

PROVISION OF ENGINEERING SERVICES

WATER

Water to the concerned property will be provided by means of a borehole, to serve:

A 20 000 litres for fire suppression.

40 000 litres for domestic water.

SEWER

Sewer to the concerned property will be provided by means of a septic tank.

WASTE

Domestic waste will be dumped at a licensed municipal dumping site.

Medical waste will be collected and removed by a registered service provider.

ELECTRICITY

Electricity to the concerned property will be provided by Eskom, with a 350KVA to 500KVA backup generator

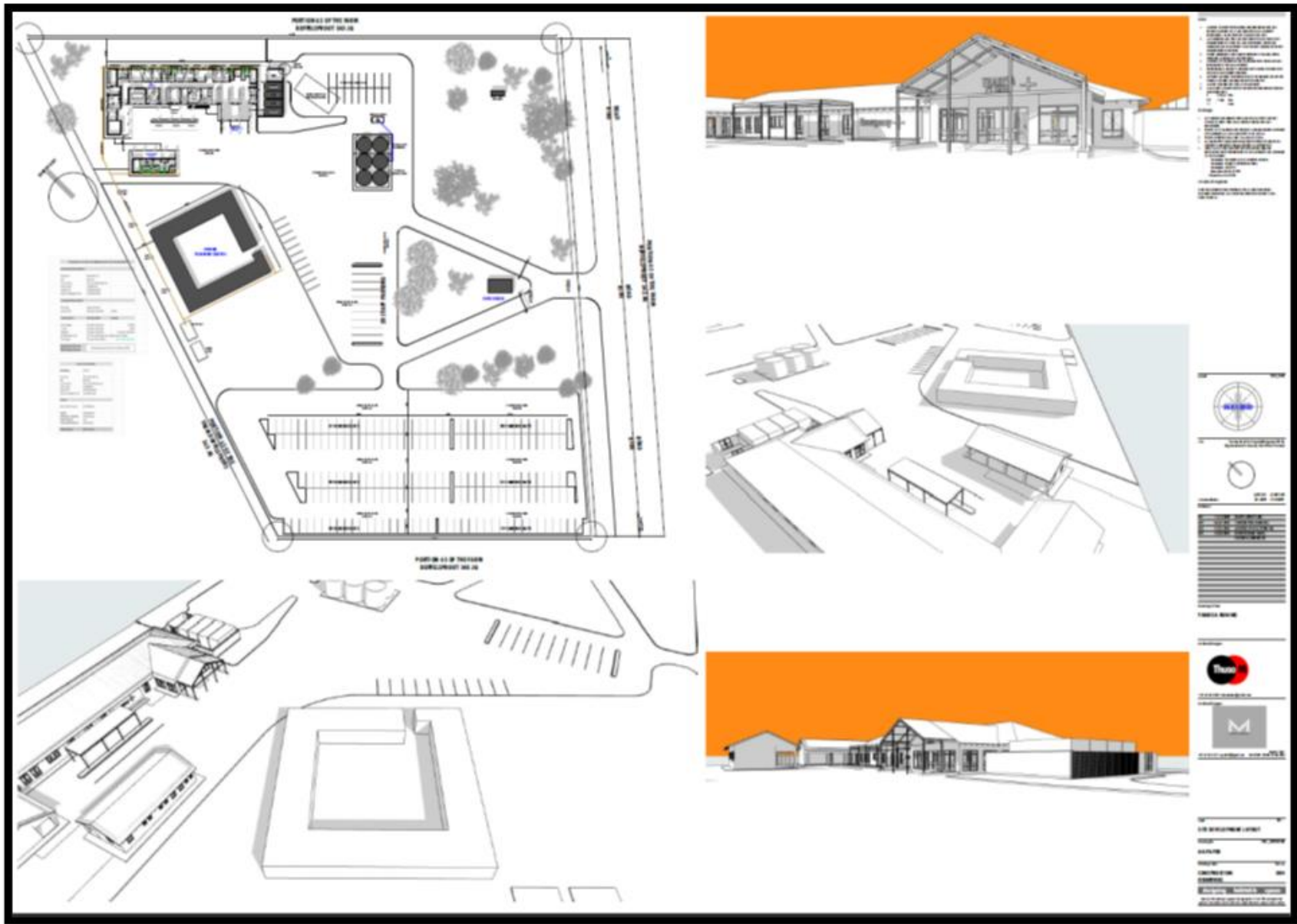


FIGURE 1: LAYOUT PLAN

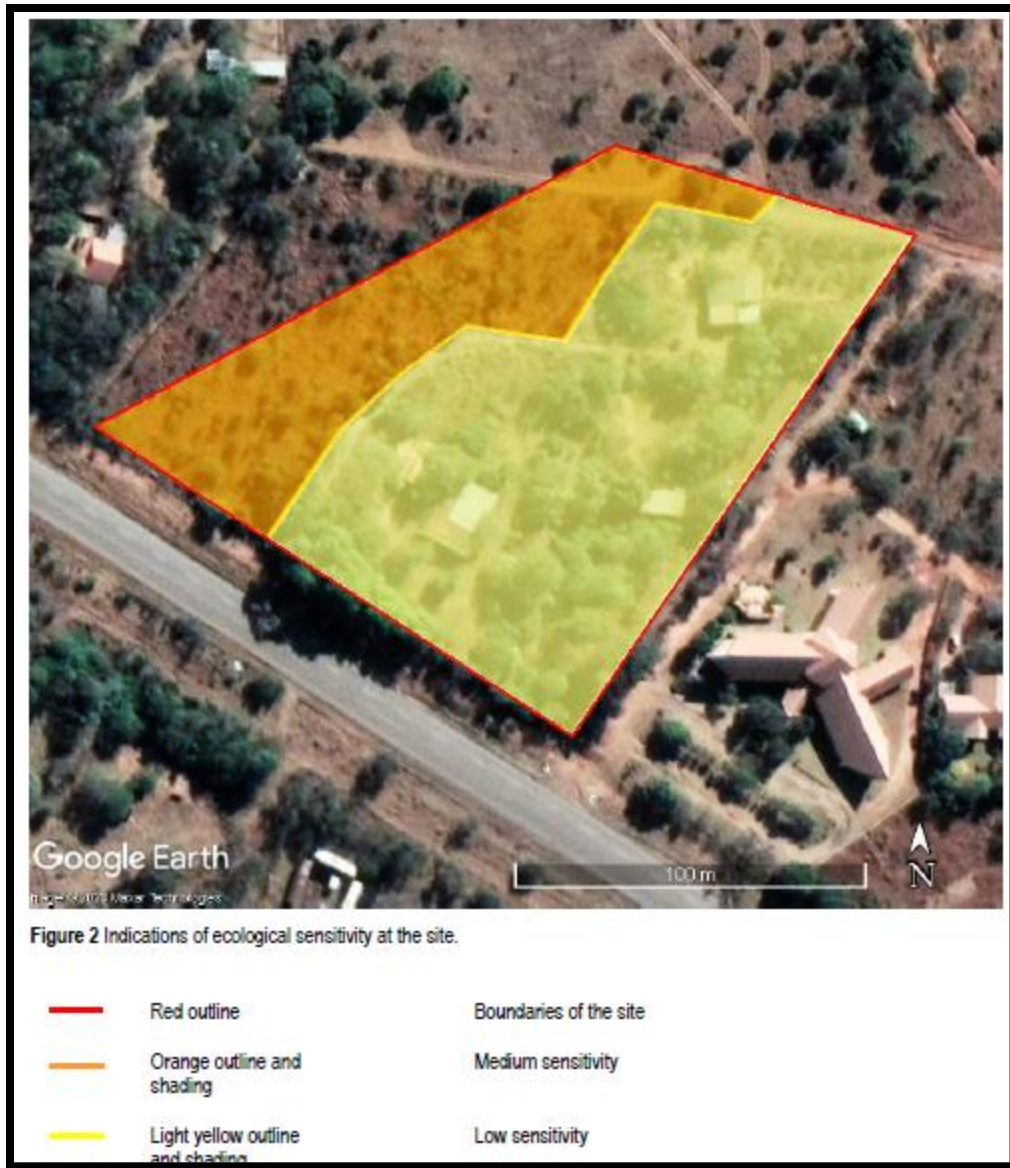


FIGURE 2: SENSITIVITY MAP GENERATED BY THE SPECIALIST

4. DESCRIPTION OF THE PROPERTY

The site is located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province. In order to establish the proposed development 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be cleared. Please refer to Figure 3 for a Locality Map and Figure 4 and Figure 5 for Maps indicating the site in relation to the two CBAs. The total development footprint will be 2,2489ha. The proposed development site is located within the area of jurisdiction of the Rustenburg Local Municipality (NW 373) which in turn falls within the area of jurisdiction of the Bojanala District Municipality. Rustenburg local municipality is located in the North West Province of South Africa. The city is situated at the foot of the Magalies mountain range and is referred to as “town of rest” or “resting place”.

Rustenburg is the most populous municipality in the North West province and also the fastest growing municipality in South Africa. The municipality’s economy is mainly based on the surrounding mining and agricultural activities. The city of Rustenburg is situated some 112 km northwest, from both Johannesburg and Pretoria. Rustenburg, is situated on the N4 highway, forming part of the main route between Gauteng and Botswana.

The proposed development site is located directly adjacent and to the north-north-east of Road R104 (Rustenburg - Mooi-nooi/Hartbeespoort Dam road), approximately 1,6 km east of the ATKV Buffelspoort Resort. A large part of the site consists of buildings and old garden areas where alien invasive plant species are conspicuous. Extensive covers of alien invasive weed species are present at some areas. Alien invasive herbaceous weeds at the site include *Tagetes minuta*, *Bidens bipinnata*, *Bidens pilosa*, *Gomphrena celosioides*, *Schkuhria pinnata*, *Chenopodium album*, *Guileminea densa*, *Alternanthera pungens*, *Coreopsis lanceolata*, *Zinnia peruviana* and *Flaveria bidentis*. Vegetation at the remaining disturbed savanna patches contains indigenous grasses, forbs and trees. Indigenous trees at the site include *Vachellia nilotica*, *Vachellia tortilis* subsp. *heteracantha*, *Dichrostachys cinerea*, *Searsia lancea* and *Ziziphus mucronata*. Alien invasive trees include *Melia azedarach*, *Jacaranda mimosifolia* and *Opuntia ficus-indica*. Other exotic plant species such as *Bougainvillea x buttiana*, *Plumeria rubra* and *Catharanthus roseus* are also part of old gardens at the site. Indigenous herbaceous species include *Helichrysum argyrosphaerum*, *Commelina africana* and *Corchorus asplenifolius*. Indigenous grass species include *Aristida congesta*, *Cynodon dactylon*, *Eragrostis lehmanniana*, *Heteropogon contortus*, *Melinis repens* and *Panicum maximum*.

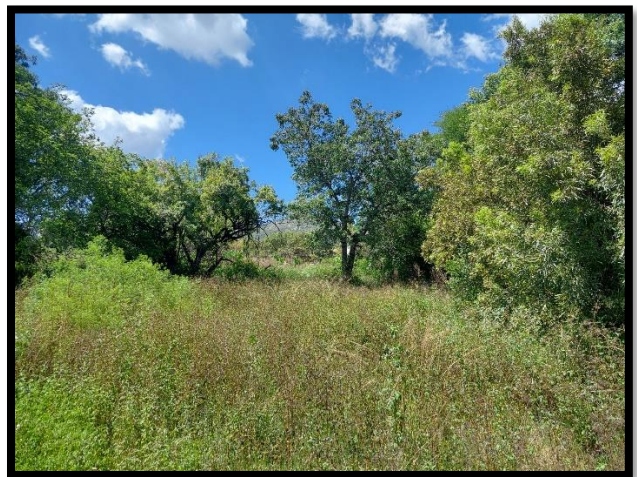
The site currently lies abandoned. There are three dilapidated/abandoned houses and out buildings on site. Most of the site was part of a garden, and exotic plant species are the predominant vegetation found on more than two thirds of the site. Please see photographs below.



View of the entrance to site



Abandoned buildings on site



Abandoned remains of gardens that used to be found on site

SURROUNDING LAND USES AND ZONINGS

The site is situated within an area utilized for a variety of purposes, including:

- Church complex

- Tharisa Minerals Conference Centre
- Transport business
- Agricultural
- Karani's Store



View of adjacent church complex



View of adjacent agricultural property



View of entrance to Tharisa Minerals Conference Centre



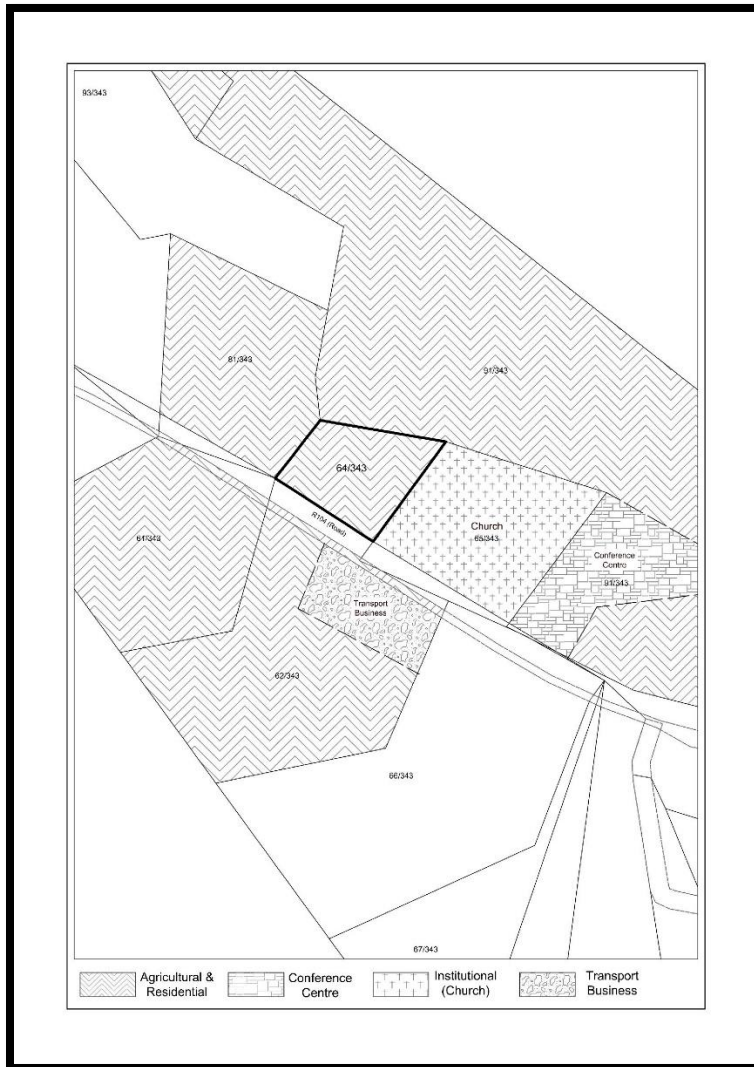
View of sign to Tharisa Minerals Conference Centre



View of transport business



View of Karani's Store



Map indicating surrounding land uses

In terms of the Rustenburg Land Use Scheme, 2021, the surrounding properties are zoned for “Agricultural”, “Business 1”, “Special”, “Residential 1” and “Residential 2” purposes.

The Surveyor-general 21 digit site (erf/farm/portion) reference numbers are.

T	O	J	Q	0	0	0	0	0	0	0	0	0	0	3	4	3	0	0	0	6	4
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Site Co-ordinates

Latitude (S):

Longitude (E):

Alternative S1 (preferred or only site alternative)

25°	45'	45.73"	27°	30'	14.04"
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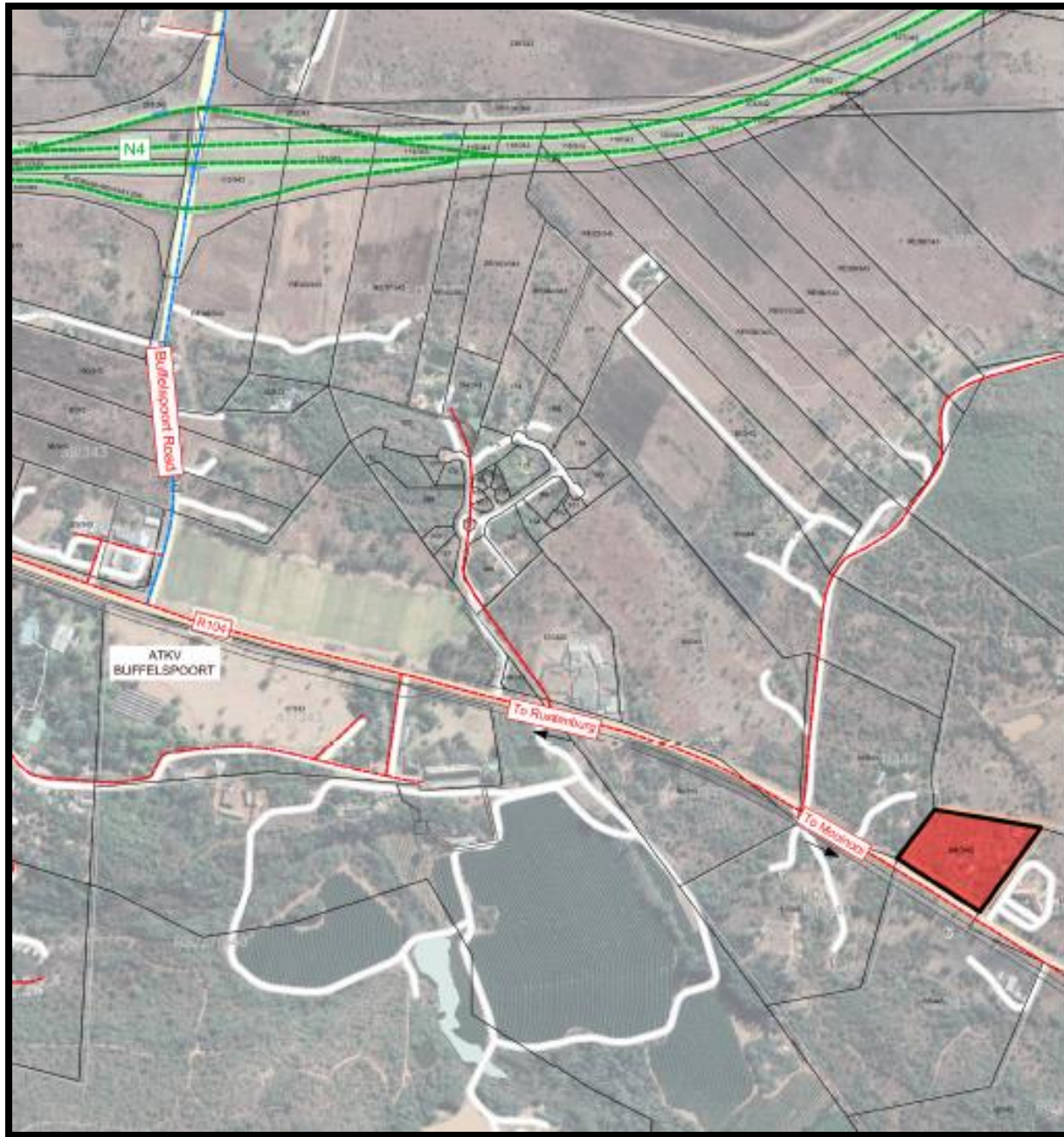


FIGURE 3: LOCALITY MAP

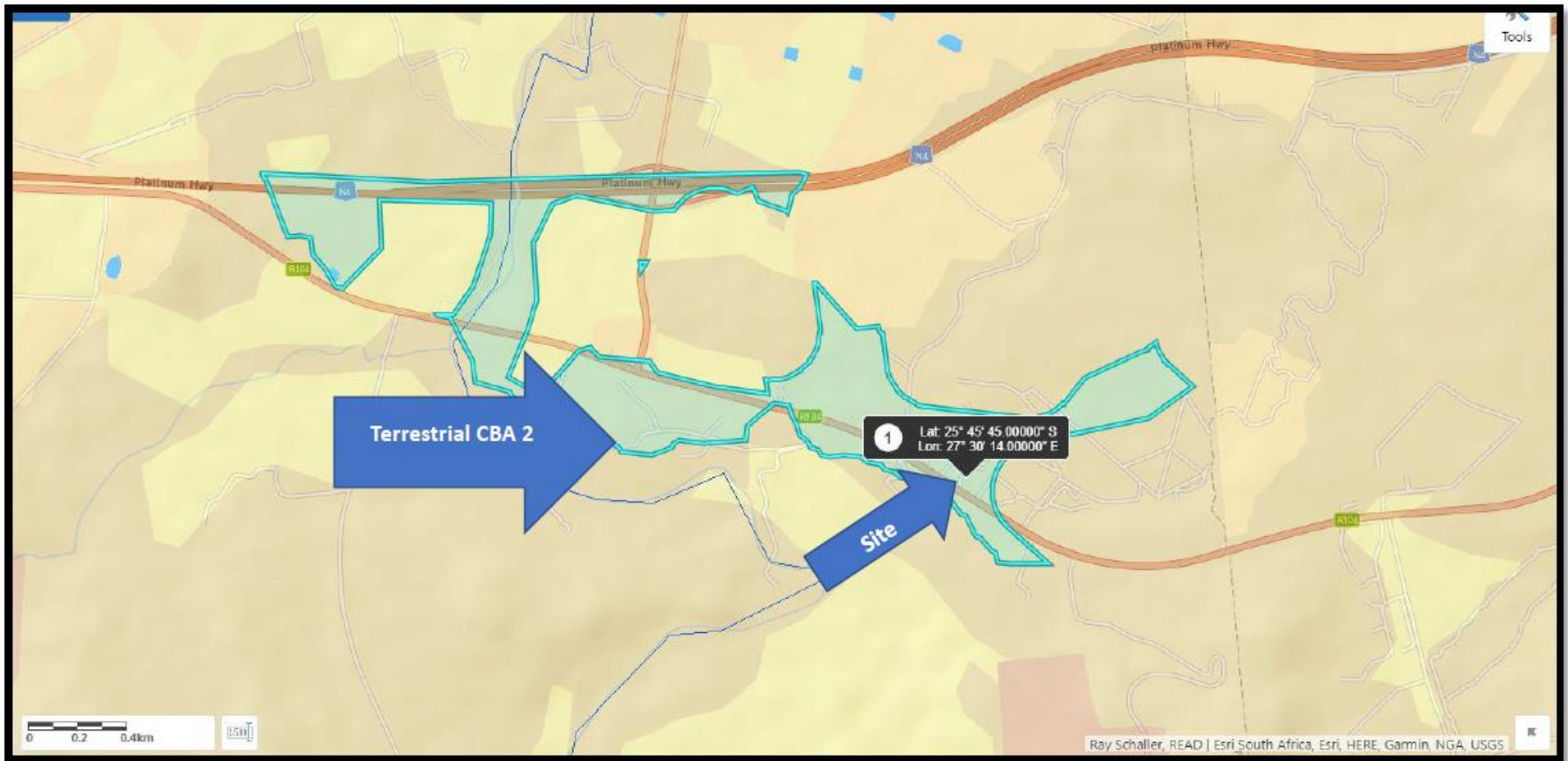


FIGURE 4: TERRESTRIAL BIODIVERSITY MAP

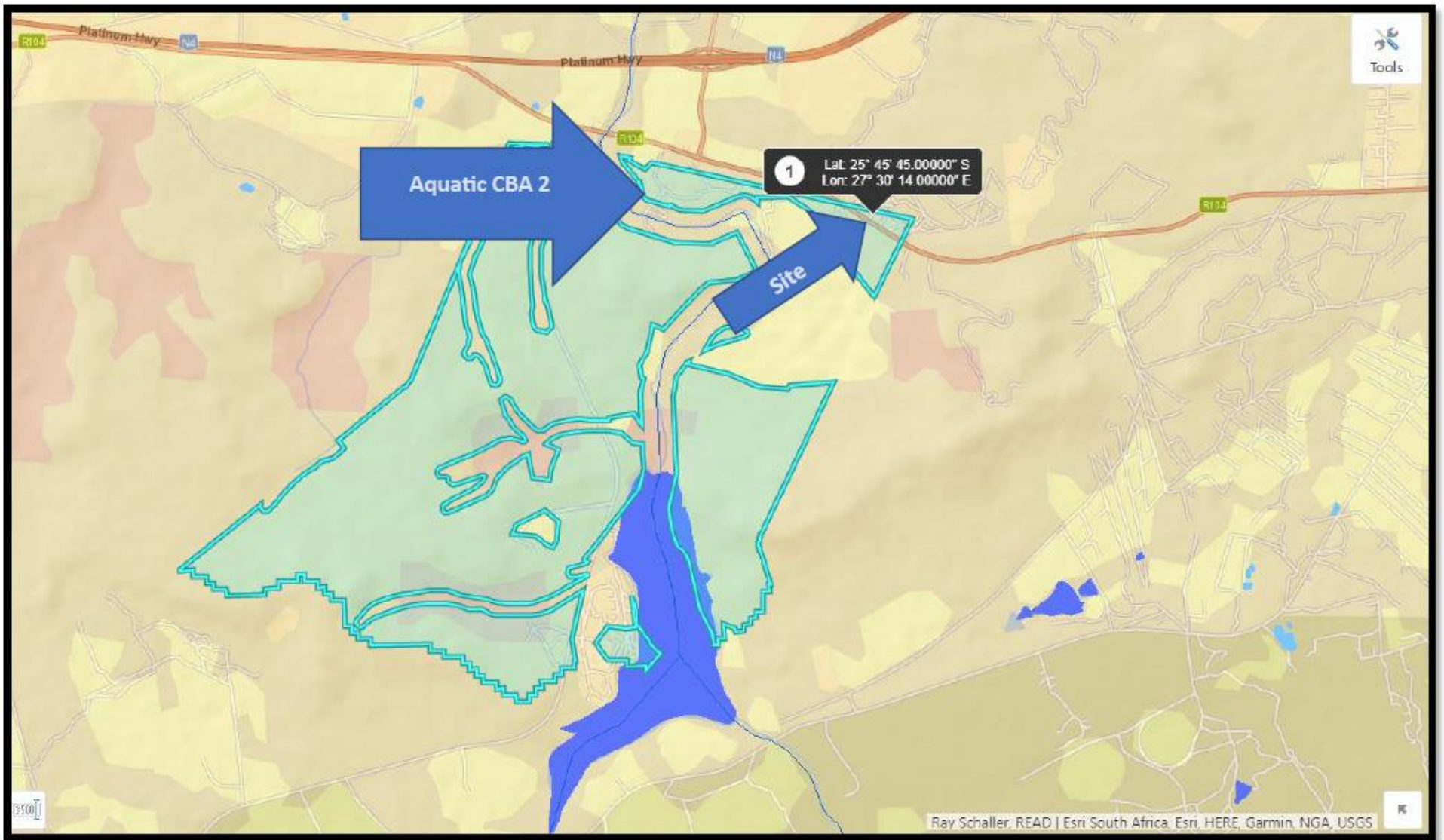





Figure 5: AQUATIC BIODIVERSITY MAP



FIGURE 6: FAUNA AND FLORA HABITAT SPECIALIST'S SENSITIVITY MAP

- | | | |
|---|----------------------------------|------------------------|
|  | Red outline | Boundaries of the site |
|  | Light yellow outline and shading | Low Sensitivity |
|  | Orange outline and shading | Medium Sensitivity |

5. LEGAL AND OTHER REQUIREMENTS

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
National Environmental Management Act No. 107 of 1998 as amended.	NEMA is the guiding legislation that has been considered during the Environmental Impact Assessment process and the compilation of this Scoping Report.	NW:DEDECT	27 November 1998
The Bill of Rights, Constitution of South Africa, Section 27 (1)(b)	<p>The Constitution of the Republic of South Africa is the legal source of all law, including environmental law, in South Africa. The Bill of Rights is fundamental to the Constitution of South Africa and in, section 24 of the Act, it is stated that:</p> <p>Everyone has the right (a) to an environment that is not harmful to their 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 and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</p> <p>Given that environmental management is founded partly on the principles of public participation, Section 195 of the Constitution is of primary relevance:</p> <p>(1) Public administration must be governed by the democratic values and principles enshrined in the constitution, including the following principles: (a) (b) (c) (d) (e) Peoples needs must be responded to, and the public must be encouraged to participate in policymaking. (f) Public administration must be accountable. (g) Transparency must be fostered by providing the public with timely, accessible and accurate information (Government Gazette, 1996).</p>	National Government	1994
New Regulations 2014 in terms of NEMA	Legislation consulted during the environmental impact assessment process to determine whether any listed activities would be triggered. The Regulations were also consulted to determine inter alia the requirements regarding the contents of Scoping reports and the public participation process that should be followed.	NW: DEDECT	7 April 2017
National Water Act (36 OF 1998)	National Water Act (NWA), 1998 (Act 36 of 1998) is the primary statute providing the legal basis for water management in South Africa and has to ensure ecological integrity, economic growth and social equity when managing and using water.	Department of water and sanitation	1998

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>The major objectives of the National Water Act are to:</p> <ul style="list-style-type: none"> •Aid in providing basic human needs; •Meet the growing demand of water in a sustainable manner; •Ensure equal access to water and use of water resources; •Protect the quality of water of natural resources; •Ensure integrated management of water resources; •Foster social and economic development; and •Conserve aquatic and related ecosystems. <p>Section 19 of the National Water Act states that the person responsible for land upon which any activity is or was performed which causes, has caused or is likely to cause, pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.</p>		
<p>National Environmental Management: Biodiversity Act (NEMBA) (ACT NO. 10 OF 2004)</p>	<p>The National Environmental Management Biodiversity Act, 2004 (Act No. 10 of 2004), provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources; the establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.</p> <p>In terms of Chapter 4 of the Above Act:</p> <p>52. (1) (a) The Minister may, by notice in the Gazette, publish a national list of ecosystems that are threatened and in need of protection.</p> <p>(b) An MEC for environmental affairs in a province may, by notice in the Gazette, publish a provincial list of ecosystems in the province that are threatened and in need of protection.</p> <p>(2) The following categories of ecosystems may be listed in terms of subsection:</p> <p>(a) critically endangered ecosystems, being ecosystems that have undergone severe degradation of ecological structure, function or composition as a result of human intervention and are subject to an extremely high risk of irreversible transformation;</p>	<p>NW: DEDECT</p>	<p>2004</p>

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<p>(b) endangered ecosystems, being ecosystems that have undergone degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems;</p> <p>(c) vulnerable ecosystems, being ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems; and</p> <p>(d) protected ecosystems, being ecosystems that are of high conservation value or of high national or provincial importance, although they are not listed in terms of paragraphs (a), (b) or (c).</p> <p>(3) A list referred to in subsection (1) must describe in sufficient detail the location of each ecosystem on the list.</p> <p>53 (1) The Minister may, by notice in the Gazette, identify any process or activity in a listed ecosystem as a threatening process.</p> <p>(2) A threatening process, identified in terms of subsection (1) must be regarded as a specified activity contemplated in section 24(2)(b) of the National Environmental Management Act (1998) and a listed ecosystem must be regarded as an area identified for the purpose of that section.</p>		
National Environmental Management: Protected Areas Act (ACT NO. 57 OF 2003)	<p>This Act aims to provide for a national system of protected areas in South Africa as part of a strategy to manage and conserve its biodiversity. The Protected Areas Act tries to ensure the protection of the entire range of biodiversity, referring to natural landscapes and seascapes. The Act makes express reference to the need to move towards Community Based natural Resource Management (CBNRM) as its objectives include promoting the participation of local communities in the management of protected areas. The purpose of the Act is:</p> <ul style="list-style-type: none"> •To protect ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes and their ecological integrity. •To conserve biodiversity in those areas; •To protect South Africa's rare species; •To protect vulnerable or ecologically sensitive areas; •To assist in ensuring the sustained supply of environmental goods and services; •To provide for the sustainable use of natural and biological resources; 	National Department of Environmental Affairs	2003

Title of legislation, policy or guideline	Applicability to the project	Administering authority	Date
	<ul style="list-style-type: none"> •To create or augment destinations for nature-based tourism; •To manage the interrelationship between natural environmental biodiversity, human settlement and economic development; •To contribute to human, social, cultural, spiritual and economic development; •To rehabilitate and restore degraded ecosystems and promote the recovery of endangered and vulnerable species. <p>This Act further stipulates various criteria which must be met before an area can be declared as a special nature reserve, national park, nature reserve and protected environment. It also prescribes a range of procedures, including consultation and public participation procedures which must be followed before any of the kinds of protected areas are declared.</p>		
National Heritage Resources Act, Act No. 25 of 1999	Legislation consulted during the impact assessment process, to determine the legal requirements relating to the management of heritage resources that are present in and around the site.	SAHRA	1999
National Environmental Management: Waste Act, Act No. 59 of 2008, DEDECT together with the List of Waste Activities that Have, or are Likely to Have, a Detrimental Effect on the Environment, GN No. 921 of 29 November 2013	Legislation consulted to determine whether a waste licence will have to be obtained for the development.	NW:DEDECT Waste Section	2008
<i>National Environmental Management: Air Quality Act (Act 39 of 2004)</i>	To protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation and for securing ecologically sustainable development while promoting justifiable economic and social Development. Construction activities may cause some air pollution.	Department of Environmental Affairs: Directorate Air quality management	2004
<i>The Conservation of Agricultural Resources Act (Act 43 of 1983)</i>	This Act regulates the flow pattern of runoff water, control of weeds and invader plants.	NW: Department of Agriculture	1983
<i>National Veldt and Forest Fire Act (Act 101 of 1998)</i>	Chapter 4 places a duty on owners to prepare and maintain firebreaks.	Department of Agriculture, Forestry and Fisheries	1998
<i>National Forests Act, Act 84 of 1998 (NFA) DEDECT with GN1602 of December 2016.</i>	During the construction phase of the development certain protected trees may be affected. Licences will have to be obtained from the Minister before the affected trees may be cut, disturbed, damaged or destroyed. GN1602 of December 2016 contains the list of protected trees.	Department of Agriculture, Forestry and Fisheries	1998
<i>Occupational Health and Safety Act (Act 85 of 1993)</i>	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 and the protection of persons other than persons at work against hazards to health.	Department of Employment and labour	1993

5.2 (i) an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks, and instruments that are applicable to this activity and have been considered in the preparation of the report; and

(ii) how the proposed activity complies with and responds to the legislation and policy context, plans, guidelines, tools frameworks, and instruments explanation of how the proposed development complies with and responds to the legislation and policy context

5.2.1 Existing Land use Rights:

The current zoning in terms of the Rustenburg Land Use Scheme is as follows:

CURRENT DEVELOPMENT PARAMETERS	
Zoning	Agriculture
Maximum Coverage	As approved by the Local Municipality
Maximum Height	As approved by the Local Municipality
Parking	As per the Rustenburg Land Use Scheme, 2021
FAR	As approved by the Local Municipality
Building Lines	Street: 10 metre Rear and side space: 10 metre R104 Road: Requirements of the Provincial Roads Department

A Town and Regional Planner has been appointed to apply for Rezoning.

5.2.2 Provincial Spatial Development Framework (PSDF)

In terms of the Provincial Growth and Development Strategy (PGDS) the following key programmes of the Economic enhancement initiative were identified:

- The provincial economy needs to become more productive, more competitive and more diversified.
- Promote labour absorbing activities through Small Enterprises to support and promote private stimulation of rural economies.
- To promote skills development and training in economic practices to enhance economic growth.

The Spatial Development Framework refers to social infrastructure, facilities and services. Several land uses can be included within service delivery centres such as retail, education, health and residential uses. The guidelines for the location of service delivery centres are as follows:

- It should be located on a public transportation route.
- It should utilise existing public transport facilities as far as possible.
- It should be located on an area with enough vacant land for its development.

The concerned property is situated within an area earmarked for agricultural purposes and not situated within an area identified as regional open space.

In view of the locality of the concerned property, the opinion is being held that the proposed development will not be in conflict with the priorities and objectives as contained within the fore-mentioned Rustenburg Spatial Development

Framework (2010 review) and will also contribute towards the upliftment of the area as well as provide access to social facilities, along a public transportation route

5.2.3 Urban Edge/ Edge of built environment

Influences on the surrounding land uses and environment

- In assessing the impact of the proposed development on the surrounding properties, land uses and environment, cognisance should be taken of the fact that Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province is situated adjacent to Road R104 (Rustenburg / Hartbeespoort Road) serving as a main road within the Rustenburg Local Municipality.
- Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province to accommodate the proposed development, is situated within an area utilized for a variety of purposes, including:
 - Church complex
 - Tharisa Minerals Conference Centre
 - Transport business
 - Karani's Store
- Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province is currently predominantly vacant. The proposed development will lead to the efficient and economic development of a property that is predominantly vacant.
- No negative impact is anticipated on the surrounding properties and environment, as the usage "Clinic" exclude noxious uses, as contained within the Rustenburg Land Use Scheme, 2021.
- The intention is to erect a building on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province adding value to the surrounding properties and land uses.
- Sufficient space is available on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province to accommodate the proposed development and the required parking spaces

5.2.4 Integrated Development Plan (IDP) and Spatial Development Framework (SDF) of the Local Municipality.

The Rustenburg Integrated Development Plan (2012 - 2017) sets the stage for sectoral planning within various administrative units. The main purpose of the Rustenburg Integrated Development Plan is to enable the Rustenburg Local Municipality to become more competitive, understand regional strengths and weaknesses and to propose arrangements for better corporate governance. It attempts to integrate job creation, physical development and environmental concerns and to strengthen Local Economic Development, as well as land uses that comply with the requirements for sustained Local Economic Development.

The need for business sites and social facilities originates from demographic and economic trends that project significant increases in both population and the number of employees over the next few years. The proposed development comprises of land uses that aims to support the existing land uses in the direct vicinity of the concerned property and to provide opportunities for job creation.

The Rustenburg Spatial Development Framework (2010 Review) (hereafter referred to as the Spatial Development Framework) is a direct result of the Integrated Development Plan (2013 - 2014) for Rustenburg. The development principles were taken into consideration when the Local Authority revised the Spatial Development Framework.

The "Vision" of the Rustenburg Local Municipality, as described in the 2009/2010 IDP, is defined as **"A successful Rustenburg for the benefit of all"**.

The following Spatial Development Priority and Objectives, as contained in Chapter 8 of the Spatial Development Framework, were identified.

PRIORITY 1	OBJECTIVE
INTEGRATED SPATIAL DEVELOPMENT SUPPORTED BY THE REQUIRED BULK INFRASTRUCTURE DEVELOPMENT	Promote a compact urban structure through infill and densification, specifically within the individual settlement clusters. Improve integration between social amenities, economic opportunities and places of residence.
PRIORITY 2	OBJECTIVES
ACCELERATED AND SHARED ECONOMIC GROWTH SUPPORTED BY CREATION OF SPATIAL ECONOMIC OPPORTUNITIES	Create a viable business node hierarchy linked to the proposed service delivery centres.
PRIORITY 3	OBJECTIVES
SUSTAINABLE USE AND MANAGEMENT OF NATURAL RESOURCES	Protect ecologically sensitive areas.
PRIORITY 4	OBJECTIVES
INTEGRATION OF LAND USE AND TRANSPORT DEVELOPMENT	Focus urban development along major public transportation routes to establish transport corridors.
PRIORITY 5	OBJECTIVES
CREATION OF SUSTAINABLE SETTLEMENTS THROUGH ACCESS TO APPROPRIATE HOUSING AND SOCIAL FACILITIES	Housing developments must include the full range of community facilities to ensure viable and sustainable living environments.
PRIORITY 6	OBJECTIVES
CREATION OF OPPORTUNITIES FOR SUSTAINABLE RURAL DEVELOPMENT	Strengthen rural centres as centres of service delivery.

The Spatial Development Framework refers to social infrastructure, facilities and services. Several land uses can be included within service delivery centres such as retail, education, health and residential uses. The guidelines for the location of service delivery centres are as follows:

- It should be located on a public transportation route.

- It should utilise existing public transport facilities as far as possible.
- It should be located on an area with enough vacant land for its development.

The concerned property is situated within an area earmarked for agricultural purposes and not situated within an area identified as regional open space.

In view of the locality of the concerned property, the opinion is being held that the proposed development will not be in conflict with the priorities and objectives as contained within the fore-mentioned Rustenburg Spatial Development Framework (2010 review) and will also contribute towards the upliftment of the area as well as provide access to social facilities, along a public transportation route

5.2.5 Spatial Planning and Land Use Management Act, Act 16 of 2013, (SPLUMA).

The Spatial Planning and Land Use Management Act, Act 16 of 2013, (SPLUMA) came into operation on the 1st of July 2015 and has changed the Planning profession to such an extent that Planning can no longer be used as a tool to separate people and communities. The objectives are:

- *provide for a uniform, effective and comprehensive system of spatial planning and land use management for the Republic;*
- *ensure that the system of spatial planning and land use management **promotes social and economic inclusion;***
- *provide for **development principles and norms and standards;***
- *provide for the **sustainable and efficient use of land;***
- *provide for cooperative government and intergovernmental relations amongst the national, provincial and local spheres of government; and*
- *Redress the imbalances of the past and to ensure that there is equity in the application of spatial development planning and land use management systems.*

SPLUMA's desired outcomes:

- Coherent regulatory framework;
- Constitutional synergy (clear delineation, distribution & allocation of powers among spheres);
- Predictable and transparent regulatory system; and
- Clear, rational and efficient inter-linkages of sectoral and intersphere planning tools and policies.

The following guidelines are given for Land Use Management:

- Land resources are used for a variety of purposes which interact and may compete with one another; therefore, it is desirable to plan and manage all uses in an integrated manner.
- Land use management examines all uses of land in an integrated manner, it makes it possible to minimize conflicts, to make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development.
- The essence of the integrated approach finds expression in the coordination of the sectoral planning and management activities concerned with the various aspects of land use and land resources.
- Integration should consider all environmental, social and economic factors.
- Integrated consideration facilitates appropriate choices and trade-offs, thus maximizing sustainable productivity and use. The broad objective is to facilitate allocation of land to the uses that provide the greatest sustainable benefits and to promote the transition to a sustainable and integrated management of land resources.

Provincial Priority 4 states the following:

- Address the apartheid geography and create the conditions for more humane – and environmentally sustainable – living and working environments.
- It is important to address the entrenched spatial patterns that exacerbate social inequality and economic inefficiency, cognisant of the unique needs and potentials of different rural and urban areas in line with emerging development corridors.
- Active citizenship in spatial development should be supported through properly funded interventions that encompass citizen-led neighbourhood vision and planning processes; and the introduction of social compacts.
- Settlement planning should ensure the creation of spaces that are liveable, equitable, sustainable, resilient and efficient, and that support economic opportunities and social cohesion.

The proposed development complies with the principles as set out above in the sense that the proposed development will contribute to economic growth in the area

The study is conducted in such a way as to comply with the instructions regarding such studies and reports (as contained within the above-mentioned documents).

5.2.6 Integrated Environmental Management as set out in Section 23 of NEMA as amended.

The IEM guidelines encourage a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The basic principles underpinning IEM are that there be: informed decision-making;

- accountability for information on which decisions are taken;
- accountability for decisions taken;
- a broad meaning given to the term environment (i.e. one that includes physical, biological, social, economic, cultural, historical and political components);
- an open, participatory approach in the planning of proposals;
- consultation with interested and affected parties;
- due consideration of alternative options;
- an attempt to mitigate negative impacts and enhance positive aspects of proposals;
- an attempt to ensure that the 'social costs' of development proposals (those borne by society, rather than the developers) be outweighed by the 'social benefits' (benefits to society as a result of the actions of the developers);
- democratic regard for individual rights and obligations;
- compliance with these principles during all stages of the planning, implementation and decommissioning of the proposals (i.e. from 'cradle to grave'); and
- the opportunity for public and specialist input in the decision-making process.

The general objectives of Integrated Environmental Management have been taken into account in this Basic Assessment report by means of identifying, predicting and evaluating the actual and potential impacts on the environment, socio-economic conditions and cultural considerations and cultural heritage component. The risks, consequences, alternatives as well as options for mitigation of activities have also been considered with a view to minimise negative impacts, enhance benefits and promote compliance within the principles of environmental management.

Additionally the Basic Assessment process will be undertaken to ensure I&APs have been afforded the opportunity to comment on the proposed activity and that their comments/inputs/concerns will be taken into consideration during the assessment process.

5.2.7 The principles of environmental management as set out in Section 2 of NEMA

The principles of NEMA have been considered in this assessment through compliance with the requirements of the relevant legislation in undertaking the assessment of potential impacts, as well as through the implementation of the principle of sustainable development.

This process will be undertaken in a transparent manner and all efforts will be made to involve interested and affected parties, stakeholders and relevant Organs of State such that an informed decision can be made by the Regulating Authority.

The following aspects have been dealt with:

SCHEDULE

Actions	Timeframe
1 Communication with authorities and source and analyse relevant baseline information and undertake site inspections	3 days
2 Compile Environmental Application Form for the project	2 days
3 Compile an <i>information requirements list</i> to be distributed to the project team. The Information required would assist with completion of the BAR.	2 days
4 Identify key interested and affected parties (I&APs)	1 day
5 Compilation of terms of reference for specialist studies	2 days
6 Commission specialist studies	1 day
7 Compile draft BAR and make available to the public for a 30 day commenting period and submit the application form to the competent authority. NB: According to the new Regulations a BAR must be submitted 90 days after the application has been submitted. The implication is that all information must be available within 80 days after submitting the Application.	3 days for compilation and 30 days for commenting period (The competent authority has 90 days to request additional information or to refuse the application, from the date of submission)
8 Prepare an Information Sheet (summary of the draft BAR) and distribute to I&APs	1 day
9 Compile and publish media notices (for the BAR) in relevant newspapers	7 – 10 days depending on the day the newspaper is published
10 Compile and place poster/s along the boundary of the site	1 day
11 Hold a public meeting / Open House / focus meeting with I&APs	1 day
12 Receive and address first round of comments from public	3 days
13 Should the draft BAR require substantial changes, these changes will be incorporated into the draft BAR and distributed	Included above (allow an additional 50 days to include #14 below)
14 Allow the identified public to provide comment within a 30 day period on above report.	3 days for compilation and 30 days for commenting period (Competent authority has an additional 50 days)
15 Address comments received on the draft BAR, Finalise BAR and update comments and response table; finalise Basic Assessment Report and submit to authorities	5 days
16 Submit final BAR to authorities for a final decision	1 day, The department has 107 days from the date of receipt to review and come to a final decision.
17 Once the decision is issued, all I&Ps must be formally informed of the decision	20 days
TOTAL AMOUNT OF DAYS:	197 days

6. NEED AND DESIRIBILITY

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The identified site, Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province was found to be ideal. The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide “One” facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification.

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

A well-diversified business sector curtails leakages or purchasing power to other towns and cities. To ensure that the purchasing power remains “healthy” within the Rustenburg Local Municipality and for a sustainable economic growth, a variety of land uses should be established locally. This creates the opportunity to development new businesses and to improve existing services. In view of the objectives contained within the Rustenburg Spatial Development Framework, (2010 Review), the Rustenburg Local Municipality envisages to serve the social needs and requirements of the population more properly and to become economically competitive, when compared to other towns and cities.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality.

7. ALTERNATIVES

One of the objectives of the Basic Assessment process is to investigate alternatives to the proposed project. The IEM procedure stipulates that the environmental investigation needs to consider feasible alternatives for any proposed development. Therefore, a number of possible proposals or alternatives for accomplishing the same objectives should be identified and investigated. In order to ensure that the proposed development enables sustainable development, feasible alternatives must be explored (S. Cliff, 2015).

The identification, description, evaluation and comparison of alternatives are important for ensuring a sound environmental scoping process. Alternatives should be considered as a norm within the Environmental Process (S. Cliff, 2015).

“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.

The alternatives considered for the proposed development includes “(a) the property on which or location where it is proposed to undertake the activity” alternatives (including the No-go option). The various alternatives that will be assessed is in terms of environmental, social and technical feasibility.

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The mine has since bought more Properties south of the N4 and these sites were identified as potential locations for the Medical Centre. Three alternative sites were considered

Site Alternatives (Preferred Alternative)	Description and discussion
Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province	<i>Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.</i> The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide “One” facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification
Site Alternatives (Alternative 1)	Description and discussion
Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province	<i>Establishment of a Clinic, located on Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province.</i>

	This Property is located opposite the Tharisa Quarantine / Conference facility – this facility was deemed not be not suitable as it is located on a steep slope with rocky outcrops
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No-go Alternative

The only other alternative that exists for the proposed development is the “no-go” option which will imply that the status quo will prevail. Should this option be implemented, none of the advantages as mentioned below will realise

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

A well-diversified business sector curtails leakages or purchasing power to other towns and cities. To ensure that the purchasing power remains “healthy” within the Rustenburg Local Municipality and for a sustainable economic growth, a variety of land uses should be established locally. This creates the opportunity to development new businesses and to improve existing services. In view of the objectives contained within the Rustenburg Spatial Development Framework, (2010 Review), the Rustenburg Local Municipality envisages to serve the social needs and requirements of the population more properly and to become economically competitive, when compared to other towns and cities.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality.

8. DESCRIPTION OF THE ENVIRONMENT THAT MAY BE AFFECTED BY THE PROJECT

8.1 BIO-PHYSICAL ASPECTS

8.1.1 GEOLOGY & SOILS

The area is underlain by the Tweehoogte Bronzitite, Groenfontein Harzburgite, Makgope Bronzitite, Eerlyk Bronzitite and the Kroondal Norite as well as the Kolobeng Norite of the Rustenburg Layered Suite of the Bushveld Complex.

No dolomite occurs in the area and no stability investigation is required (the necessity is usually determined by the Council for Geoscience).



Geotechnical Zoning

8.1.2 TOPOGRAPHY

The site is located on a shallow slope towards the west (Lowest altitude of 1 258 meters above sea level in the west) with a highest point in the east at an altitude of 1 265 meters above sea level. There are no streams on or adjacent to the site. No rocky ridges are present at the site. A detailed site survey has been carried out to establish levels. The Layout plan will address issues regarding storm water. The topography of the area is ideal for the proposed development.

8.1.3 CLIMATE

The Rustenburg region is characterized by summer rainfall with thunderstorms, with annual rainfall figures of 685 mm (Agriculture) and 703 mm (Buffelspoort) recorded at the closest weather stations to the site. Winters are dry with frost common. The warmest months are normally December and January and the coldest months are June and July. Extreme climatic events may have an influence on the project during the construction and operation phase and will have to be considered.

Month	Rainfall (mm)	Min temp (°C)	Max temp (°C)	Average frost dates
Jan	109.9	16.6	29.8	Start date: 24/05 End date: 38/8 Days with frost: 32 Heat units (hrs > 10°C) Summer (Oct-Mar): 2213 Winter (Apr-Sept): 796
Feb	89.7	16.3	29.2	
Mar	76.6	14.5	28.2	
Apr	40.2	10.7	25.7	
May	18.0	5.6	23.0	
Jun	6.5	2.0	20.4	
Jul	6.2	1.8	20.8	
Aug	6.5	4.0	23.6	
Sep	14.2	8.6	27.0	
Oct	51.9	12.7	28.8	
Nov	97.1	14.6	28.7	
Dec	102.2	15.8	29.4	
Year	619.0 mm	18.2°C (Average)		

Climate Data

The variability of rainfall as well as high intensity events can influence the project. Prolonged wet spells may affect the proposed development as excess water may accumulate on uneven portions. During extremely dry spells, the possibility of dust generation, as well as the detrimental effects on vegetation, will have to be taken into consideration. Droughts occur as part of the long-term climatic cycles throughout the country.

The influence of temperature on the project is considered as very low and of very little significance, whilst the project cannot influence this variable. This variable will only play a minor role during the different phases of the project. Because extremely high temperatures may occur, (mostly during dry spells) the adverse effects due to temperature will be negative in relation to the project; however, the general nature of the average conditions will on the other hand be positive. The impacts should therefore be considered as “variable”. It is important to ensure proper management steps are taken in the different phases of the project. The influence of the environment on the project during these phases is considered positive, as extreme events are

Wind

The average wind direction for the area during the summer months is from the north-to-north-easterly quadrant, while during the early spring the direction is more north-westerly. Southerly winds may occur during the winter, but are not frequent. Normally very little wind is experienced during the winter due to the presence of the high-pressure cell situated over the central part of the country during that time of the year.

The wind speeds are normally fairly low, but high wind speeds may occur during early spring and during the passing of thundershowers.

Climate Change

Climate change is a natural phenomenon that takes place over geological time. However, over the past few decades the rate of climate change has been more rapid and the magnitude of global warming has increased dramatically (Warburton, M.L and Schulze, R 2006; Warburton, M.L 2012). This change has been attributed to increased anthropogenic greenhouse gas emissions (Koske, J and Ochieng, M.A 2013). For example, the burning of coal to generate electricity, the burning of petrol incars, some chemical processes in industries, and many farming activities all contribute to the increased concentration of greenhouse gasses in the atmosphere.

Climate change is not just an increase in average global temperatures but changes in regional climate characteristics such as rainfall, relative humidity and severe weather extremes (Davis, C.L 2011). Climate change can manifest as a shock or a stress (Ziervogel, G and Calder, R 2003). Shocks are defined as discrete, extreme events (rapid onset) such as floods, while gradual change (slow onset) such as long-term climate variability is classified as a stress (Ziervogel, G and Calder, R 2003).

The negative impacts of climate change “are already felt in many areas, including in relation to, inter alia, agriculture, and food security; biodiversity and ecosystems; water resources; human health; human settlements and migration patterns; and energy, transport and industry” (United Nations WomenWatch 2009, 1).

Measures should be implemented to reduce or eliminate carbon emissions or enhance greenhouse gas sinks (mitigation) (Böckmann, M 2015). However, due to lag times in the climate and biophysical systems, the positive impacts of past and current mitigation will only be noticeable in the next 25 years (Jiri, O 2016). In the meanwhile, adaptation is regarded as inevitable and a necessary response to the changes that are projected to take place.

A summary of the key vulnerability indicators is provided in the table below.

No	Sector	Indicator Title	Exposure Answer	Sensitivity Answer	Adaptive Capacity Answer
7	Agriculture	Change in other crop production areas (e.g. vegetables, nuts, etc.)	Yes	High	Low
10	Agriculture	Increased risks to livestock	Yes	High	Low
12	Biodiversity and Environment	Loss of High Priority Biomes	Yes	High	Low
15	Biodiversity and Environment	Loss of Priority Wetlands and River ecosystems	Yes	High	Low
25	Human Health	Increased malnutrition and hunger as a result of food insecurity	Yes	High	Low
32	Human Settlements, Infrastructure and Disaster Management	Increased migration to urban and peri-urban areas	Yes	High	Low
33	Human Settlements, Infrastructure and Disaster Management	Increased risk of wildfires	Yes	High	Low
37	Water	Less water available for irrigation and drinking	Yes	High	Low
38	Water	Increased impacts of flooding from litter blocking storm water and sewer systems	Yes	High	Low

Key Vulnerability indicators

Based on the key indicators identified in the table above, the following objectives and projects are prioritised as a response to each of the indicators.

Agriculture

The agricultural sector will be adversely affected by climate change. Increased temperatures, drought, and the increase in frequency and severity of storm events will impact on the crops that can be grown and potentially result in a loss of livestock.

Biodiversity and Environment

Climate change predictions include the shifting of biomes across South Africa. It is projected that, with the changes in climate under a high-risk scenario, the Savanna biome will replace large areas of the Grassland biome. Terrestrial, wetland, and river

ecosystems and their associated species will be negatively impacted. Furthermore, development and changes in land use will impact negatively on the environment.

Biodiversity is crucial to ecosystem health, and healthy ecosystems are central to human well-being. Healthy ecosystems interlinked with working landscapes and other open spaces form the ecological infrastructure of the country and are the foundation for clean air and water, fertile soil and food. All South Africans depend on healthy ecosystems for economic and livelihood activities, including agriculture, tourism and a number of income generating and subsistence level activities. These natural ecosystems are under pressure from land use change and related processes causing degradation, as well as invasive alien species. Accelerated climate change (resulting in increasing temperature, rising atmospheric CO₂ and changing rainfall patterns) is exacerbating these existing pressures.

Well-functioning ecosystems provide natural solutions that build resilience and help society adapt to the adverse impacts of climate change. This includes, for example, buffering communities from extreme weather events such as floods and droughts, reducing erosion and trapping sediment, increasing natural resources for diversifying local livelihoods, providing food and fibre, and providing habitats for animals and plants which provide safety nets for communities during times of hardship. Sustainably managed and/or restored ecosystems help in adapting to climate change at local or landscape level.

Objectives

The following objectives have been identified

- Manage Loss of High Priority Biomes
- Manage Loss of Priority Wetlands and River ecosystems

Human Health

Climate change impacts affect the social and environmental determinants of health and will therefore affect human health in several ways. Projected temperature increases due to climate change will negatively affect the young and elderly population of the district. People working in the informal sector usually work outdoors and are therefore exposed to all weather elements and are particularly vulnerable to temperature increases.

South Africa faces complex and pressing public health challenges exacerbated by adverse socio-economic conditions including dense informal settlements which constrain effective service delivery. These health challenges include a disease complex with the highest global prevalence of Human Immunodeficiency Virus (HIV) and tuberculosis (TB), complicated by water-borne and chronic respiratory disease.

Under-nutrition and socio-economic stress are important contributors to poor human resilience and contribute to conditions that facilitate the emergence and propagation of disease. Malnutrition and disease interact strongly, and there is a key relationship between environmental quality, food security, and the disease burden of communities. Adaptation to the potential effects of climate change on human health is viewed in this context. However, significant knowledge and information gaps are preventing well supported quantitative projections of human health impacts in South Africa.

Objectives

The following objectives have been identified.

- Manage increased malnutrition and hunger as a result of food insecurity

Disaster Management, Infrastructure and Human Settlements

Climate change impacts will affect Disaster Management, Infrastructure and Human Settlements in several ways. Increases in the severity of storm events and increase in flooding will damage infrastructure which may result in a loss of industrial productivity and service delivery disruptions. The impacts of storm events will particularly affect communities located in informal settlements, on flood plains and where there is poor drainage infrastructure. In addition, communities in rural areas that depend on subsistence farming may be unable to grow crops that they have grown in the past due to the changing

climate. It is predicted that there will therefore be an increase in rates of rural-urban migration. Rural communities may also become more physically isolated due to extreme events impacting on key infrastructure.

South Africa is a diverse country, not just in terms of populations and biodiversity, but also in terms of its human settlements. These settlements face severe challenges, even before climate change is taken into account. The implications of the compounding impacts of climate change will be profound, and human settlements therefore represent a crucial part of national adaptation strategies. The overarching strategic framework for the development of human settlements is described in the National Development Plan (NDP) and, more specifically in relation to the implications for climate change, in the National Climate Change Response White Paper (NCCRWP).

However, to develop appropriate adaptation responses a more nuanced understanding of the challenges and options for human settlements is required, building on the insights of the NCCRWP. This understanding needs to take into account the unusually diverse urban forms of human settlement in the South African context, and the importance of ecological infrastructure in supporting service delivery and building resilient communities.

Objectives

The following objectives have been identified

- Manage potential increase migration to urban and peri-urban areas.

Manage potential increased risk of wildfires

Water

Water resources are the primary medium through which climate change impacts will be felt by South Africans (Schulze et al., 2014). Climate change will affect water accessibility, quantity, and quality (Parikh, J 2007). Drought, reduced runoff, increased evaporation, and an increase in flood events will impact on both water quality and quantity.

South Africa's climate is generally arid to semi-arid, with less than 9% of annual rainfall ending up in rivers, and only about 5% recharges groundwater in aquifers. In addition, rainfall and river flow are unpredictable in time and unevenly distributed in space, with only 12% of the land area generating 50% of stream flows. Decadal rainfall variability also results in extended dry and wet periods across the country. The main users of surface water resources are agricultural irrigation, domestic, industrial, mining and power generation, while plantation forestry intercepts and reduces runoff before it reaches the rivers and groundwater.

Surface water resources were already over-allocated by the year 2000 in five of nineteen water management areas historically used for water planning and management purposes. The potential demand for water is expected to increase with economic growth, increased urbanisation, higher standards of living, and population growth. Because of the critical importance of water in the South African economy the country has a sophisticated water resources planning capacity, founded on a good understanding of the country's variable rainfall. This planning capacity will be a key capability for adaptation planning under ongoing and future climate change.

Objectives

The following objectives have been identified

- Manage the quantity of water available for irrigation and drinking
- Manage the increased impacts of floods due to litter blocking the sewer system

Cross-Cutting

The projected impacts of climate change could ultimately negatively impact the economy. Since the Agricultural sector is an important contributor to the economy and the projected impacts of climate change on agriculture could negatively impact on the economy.

The projected impacts of climate change for Harry Gwala District could ultimately negatively impact the economy of district. Since the Agricultural sector is an important contributor to the district economy and the projected impacts of climate change on agriculture could negatively impact on the district economy as a whole. It should also be noted that the project impacts of climate change could also negatively impact on the finances of the municipality. For instance, water shortages will require the implementation of demand management measures by the district resulting in lower water sales.

Climate change is a relatively new field in South Africa and research on economic impact of climate change is required for the field to get the attention that is needed.

Objectives

The following objectives have been identified

Generate knowledge and disseminate information on climate change

8.1.4 SURFACE DRAINAGE, WETLANDS AND RIPARIAN ZONES

Plate flow is the dominant drainage pattern on site, and no drainage channel intersects the site. Drainage occurs in an westerly direction towards the Sterkstroom that flows into the Elands River, that ultimately flows into the Crocodile River.

Wetlands are defined by the National Water Act (Act 36 of 1998) as: "land which is transitional between terrestrial and aquatic ecosystems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil". Wetlands such as floodplain wetlands, channelled valley-bottom wetlands, unchannelled valley-bottom wetlands, depressions, seeps and wetland flats appear to be absent at the site. No wetlands are found at the site.

Aquatic biodiversity theme sensitivity

Relative aquatic biodiversity theme sensitivity at the site is very high owing to the presence of an aquatic Critical Biodiversity Area and the presence of a strategic water source area. The presence of a strategic water source area of the sub-quaternary catchment means that pollution of groundwater or water of the river systems in the larger area should not take place because of the proposed development. There is no distinct impact that the proposed development will have on the watercourses in the larger area.

8.1.5 GROUND WATER

The permanent water table on site is deeper than 1,5m below ground surface. Storm water diversion measures such as ponding pools are recommended to control peak flows during thunderstorms. All embankments must be adequately compacted and planted with grass to stop any excessive erosion and scouring of the landscape. Special care must be taken to ensure adequate surface drainage to prevent the accumulation of water next to structures.

Possible infiltration into the groundwater must be taken into account. During the construction phase, no spills of lubricants or construction worker sewage should be allowed to pollute the ground water. These aspects are addressed in the EMPr.

8.1.6 FLORA AND FAUNA

The study area is situated in the Savanna Biome. The Savanna Biome at the site is represented by the Marikana Thornveld Vegetation type (SVcb 6). A brief overview of the vegetation type, which serves as an outline of the ecological context of the site, follows.

SVcb 6 Marikana Thornveld

Distribution: The Marikana Thornveld is found in South Africa in the North West and Gauteng Provinces: Occurs on plains from the Rustenburg area in the west, through to Marikana and Brits to Pretoria area in the east. Altitude at the Marikana Thornveld varies from 1050 – 1450 m (Mucina & Rutherford 2006).

Vegetation and landscape features: Open *Acacia karroo* woodland, occurring in valleys and slightly undulating plains, and some lowland hills. Shrubs are more dense along drainage lines, on termitaria and rocky outcrops or in other habitat protected from fire (Mucina & Rutherford 2006).

Geology and soils: Most of the area is underlain by the mafic intrusive rocks of the Rustenburg Layered Suite of the Bushveld Igneous Complex. Rocks include gabbro, norite, pyroxenite and anorthosite. The shales and quartzites of the Pretoria Group (Transvaal Supergroup) also contribute. Mainly vertic melanic clays with some dystrophic or mesotrophic plinthic catenas and some freely drained, deep soils (Mucina & Rutherford 2006).

Climate: Summer rainfall with very dry winters. Mean annual precipitation about 600 and 700 mm. Frost is fairly frequent in winter.

Important taxa: Tall tree: *Acacia burkei*. Small trees: *Acacia caffra*, *Acacia gerrardii*, *Acacia karroo*, *Combretum molle*, *Searsia lancea*, *Ziziphus mucronata*, *Acacia nilotica*, *Acacia tortilis* subsp. *heteracantha*, *Celtis africana*, *Dombeya rotundifolia*, *Pappea capensis*, *Peltophorum africanum*, *Terminalia sericea*. Tall shrubs: *Euclea crispa* subsp. *crispa*, *Olea europaea* subsp. *africana*, *Searsia pyroides* var. *pyroides*, *Diospyros lycioides* subsp. *guerkei*, *Ehretia rigida* subsp. *rigida*, *Euclea undulata*, *Grewia flava*, *Pavetta gardeniifolia*. Low Shrubs: *Asparagus cooperi*, *Rhyncosia nitens*, *Indigofera zeyheri*, *Justicia flava*. Woody Climbers: *Clematis brachiata*, *Helinus integrifolius*. Herbaceous Climbers: *Pentarrhinum insipidum*, *Cyphostemma cirrhosum*. Graminoids: *Elionurus muticus*, *Eragrostis lehmanniana*, *Setaria sphacelata*, *Themeda triandra*, *Aristida scabrivalvis* subsp. *scabrivalvis*, *Fingerhutia africana*, *Heteropogon contortus*, *Hyperthelia dissoluta*, *Melinis nerviglumis*, *Pogonarthria squarrosa*. Herbs: *Hermannia depressa*, *Ipomoea obscura*, *Barleria macrostegia*, *Dianthus mooiensis* subsp. *mooiensis* *Ipomoea oblongata*, *Vernonia oligocephala*. Geophytic Herbs: *Ledebouria revoluta*, *Ornithogalum tenuifolium*, *Sansevieria aethiopica*.

Note: Not all of the above listed plant species for the vegetation types occur at the site in the study area.

A large part of the site consists of buildings and old garden areas where alien invasive plant species are conspicuous. Extensive covers of alien invasive weed species are present at some areas. Alien invasive herbaceous weeds at the site include *Tagetes minuta*, *Bidens bipinnata*, *Bidens pilosa*, *Gomphrena celosioides*, *Schkuhria pinnata*, *Chenopodium album*, *Guilleminea densa*, *Alternanthera pungens*, *Coreopsis lanceolata*, *Zinnia peruviana* and *Flaveria bidentis*. Vegetation at the remaining disturbed savanna patches contains indigenous grasses, forbs and trees. Indigenous trees at the site include *Vachellia nilotica*, *Vachellia tortilis* subsp. *heteracantha*, *Dichrostachys cinerea*, *Searsia lancea* and *Ziziphus mucronata*. Alien invasive trees include *Melia azedarach*, *Jacaranda mimosifolia* and *Opuntia ficus-indica*. Other exotic plant species such as *Bougainvillea x buttiana*, *Plumeria rubra* and *Catharanthus roseus* are also part of old gardens at the site. Indigenous herbaceous species include *Helichrysum argyrosphaerum*, *Commelina africana* and *Corchorus asplenifolius*. Indigenous grass species include *Aristida congesta*, *Cynodon dactylon*, *Eragrostis lehmanniana*, *Heteropogon contortus*, *Melinis repens* and *Panicum maximum*.

No wetlands or rocky ridges are found at the site. A Vulnerable ecosystem, the Marikana Thornveld (SVcb 6), is mapped for the site. During surveys at the site, it was found that the original vegetation type is extensively and highly modified, at a large part of the site and that the scope for the remaining, partly isolated patch of more natural vegetation at the site to contribute significantly to the conservation of Marikana Thornveld, is small.

No Threatened or Near Threatened plant- or animal species appear to be resident at the site. No other plant- or animal species of particular conservation concern appear to be present at the site.

Protected tree species *Sclerocarya birrea* (Marula Tree) and *Combretum imberbe* (Leadwood) that occur very sparingly (only one individual of each was observed) at the site. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided.

There is little scope for the site to be part of a corridor of particular conservation importance.

Possible ecological sensitivities at the site were indicated by a report generated from the screening tool of DFFE. An assessment of these ecological sensitivities at the site, follow.

Animal species theme sensitivity

Relative animal species theme sensitivity is medium. The animal species that are flagged (with a medium sensitivity indication) by the DFFE screening tool are the mammal species *Crocidura maquassiensis* and *Dasymys robertsii* as well as the reptile species *Kinixys lobatsiana*. There appears to be no ideal habitat for the *Crocidura maquassiensis*, a mammal species which often prefers rocky habitats, at the site. The mammal species *Dasymys robertsii* is patchily distributed in the lowveld of northern South Africa and Zimbabwe. In South Africa *Dasymys robertsii* occurs predominantly in the Limpopo, Mpumalanga and Gauteng Provinces (Mullin *et. al.*, 2005). Power (2014) recorded the *D. robertsii* in the North West Province at a tributary of the Waterkloofspruit at Kgaswane. No signs of the listed mammal species have been found at the site and also no ideal habitats for these species. The Lobatse hinged-back tortoise, *Kinixys lobatsiana*. is found in southeastern Botswana and in South Africa from the north-eastern parts of the North West Province, through northern Gauteng, northwestern parts of Mpumalanga and into the Limpopo Province south of the Soutpansberg (Bates *et. al.*, 2014). *Kinixys lobatsiana* is present in savanna habitats, though absent from the subtropical lowveld, and is also absent from the highveld grassland (Bates *et. al.*, 2014). Vegetation at its habitats ranges from dens, short bushveld to open tree savanna. The tortoise species prefers rocky hillsides and rocky ridges (Boycott & Bourquin, 2000). The Lobatse hinged-back tortoise have not been recorded at the site and this site which is partly isolated and disturbed as well, does not appear to contain ideal habitat for this tortoise species. Following the inspection of the site, there is no distinct indication that the animal species listed above occur or should occur at the specific site.

Plant species theme sensitivity

Relative plant species theme sensitivity is low. Plant species that are included in the list of sensitive species, which are not threatened but prone to illegal harvesting in the North West Province, are listed in Table 4.8 and Table 4.9. None of these plant species prone to illegal harvesting which are found at the site. The occurrence of any Threatened plant species or any other plant species of particular conservation concern at the site, is highly unlikely. Therefore, the listing of the plant species theme sensitivity as low at the site, is upheld. Protected tree species *Sclerocarya birrea* (Marula Tree) and *Combretum imberbe* (Leadwood) occur very sparingly (one individual of each have been noted) at the site. These protected tree species are not threatened species. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided.

Terrestrial biodiversity theme sensitivity

Terrestrial biodiversity theme sensitivity at the site is listed as very high. This high sensitivity that is ascribed to the site, is because of the presence of Critical Biodiversity Area 2, which in turn is based on a Vulnerable ecosystem, the Marikana Thornveld (SVcb 6), mapped for the site, as well as the site being part of a Protected Areas Expansion Strategy. During surveys at the site, it was found that the original vegetation type is extensively and highly modified, at a large part of the site and that the scope for the remaining, partly isolated patch of more natural vegetation at the site to contribute significantly to the conservation of Marikana Thornveld, is small. There is also no significant indication that the site is in particular viable and important for a Protected Area Expansion strategy. Because the site is also part

of a sub-quaternary catchment of a strategic water source area, the aquatic theme also contributes to the perceived high terrestrial sensitivity. Such as addressed under the aquatic theme sensitivity, a distinct and significant impact of the development to the sub-quaternary catchment is not anticipated.

Ecological sensitivity at the site is medium and low (Figure 2). The low sensitivity at the site is indicated for the area where buildings and old associated garden areas are present. There are no Threatened or Near Threatened animal- or plant species at the site. The vegetation has been modified and disturbed at large parts, the site is partly isolated and also there are no wetlands or rocky ridges at the site.

Following the mitigations which will be upheld and planned for the proposed footprint, all the impact risks listed above are moderate or low. Please see Figure below for a sensitivity map generated by the Specialist.



FAUNA AND FLORA HABITAT SPECIALIST'S SENSITIVITY MAP

- Red outline Boundaries of the site

- Light yellow outline and shading Low Sensitivity

- Orange outline and shading Medium Sensitivity

Habitat and vegetation characteristics (Reference to Tables listed in this section refers to the Fauna and Flora Habitat Report. Appendix B of this Report.)

Plants

Extinct, threatened, near threatened and other plant species of high conservation priority in North West Province are listed in Tables 4.2 – 4.8. Protected tree species are listed in Table 4.9. The presence or not of all the species listed in the tables were investigated during the survey. None of the Threatened and Near Threatened plant species are likely to occur on the site. No other plant species of particular conservation concern appears to be present at the site with the exception of the Protected tree species *Sclerocarya birrea* (Marula Tree) and *Combretum imberbe* (Leadwood) that occur in low numbers at the site. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided.

Vertebrates

Mammals

Table 4.10, Table 4.11 and Table 4.12 list the possible presence or absence of threatened mammal species, near threatened mammal species and mammal species of which the status is uncertain, respectively, at the site. Literature sources that were used are Friedman & Daly (2004), Skinner & Chimimba (2005) and Child *et al.* (2017). Since the site falls outside reserves, threatened species such as the black rhinoceros (*Diceros bicornis*) and the African wild dog (*Lycaon pictus*) are obviously not present. No smaller mammals of particular high conservation significance are likely to be found on the site as well.

Birds

Table 4.13 and Table 4.14 list the possible presence or absence of threatened bird species and near threatened bird species at the site. With bird species which often have a large distributional range, their presence does not imply that they are particularly dependent on a site as breeding location. Therefore, the emphasis in the right-hand columns of Table 4.12 and Table 4.13 are on the particular likely dependence or not of bird species on the site. Literature sources that were mainly consulted are Barnes (2000), Hockey, Dean & Ryan (2005) and Chittenden *et. al.* (2016). No threat to any threatened bird species or any bird species of particular conservation importance are foreseen.

Reptiles

Table 4.15 and Table 4.16 list the possible presence or absence of Threatened and Near Threatened reptile species on the site. Main Source used for the conservation status and identification of reptiles are Bates, Branch, Bauer, Burger, Marais, Alexander & de Villiers (2014). Alexander & Marais (2007) as well as Tolley & Burger (2007) give useful indications of distributions, habitats and identification of the reptile species. There appears to be no threat to any reptile species of particular high conservation importance if the site is developed.

Amphibians

No frog species that occur in the North West are listed as Threatened species (Vulnerable, Endangered or Critically Endangered) or Near Threatened species according to IUCN Amphibian Specialist Group (2013). Table 4.17 lists *Pyxicephalus adspersus* (Giant Bullfrog) as Least Concern globally. According to the Biodiversity Management Directorate of GDARD (Gauteng Department of Agriculture and Rural Development) (2014) there are no amphibians in Gauteng that qualify for red listed status (red listed here indicates a category of special conservation concern such as threatened or near threatened). Suitable habitat for Giant Bullfrog at site appears to be absent.

Invertebrates

Butterflies

Studies about the vegetation and habitat of threatened butterfly species in South Africa showed that ecosystems with a unique combination of features are selected by these often localised threatened butterfly species (Deutschländer and Bredenkamp 1999; Edge 2002, 2005; Terblanche, Morgenthal & Cilliers 2003; Lubke, Hoare, Victor & Ketelaar 2003; Edge, Cilliers & Terblanche, 2008). Threatened butterfly species in South Africa can then be regarded as bio-indicators of rare ecosystems.

Four species of butterfly in Gauteng Province and North West Province combined are listed as threatened in the recent butterfly conservation assessment of South Africa (Mecenero *et al.*, 2013). The expected presence or not of these threatened butterfly species as well as species of high conservation priority that are not threatened, at the site (Table 4.18 and Table 4.19) follows.

Assessment of threatened butterfly species

***Aloeides dentatis dentatis* (Roodepoort Copper)**

The proposed global red list status for *Aloeides dentatis dentatis* according to the most recent IUCN criteria and categories is Endangered (Mecenero *et al.*, 2013). *Aloeides dentatis dentatis* colonies are found where one of its host plants *Hermannia depressa* or *Lotononis eriantha* is present. Larval ant association is with *Lepisiota capensis* (S.F. Henning 1983; S.F. Henning & G.A. Henning 1989). The habitat requirements of *Aloeides dentatis dentatis* are complex and not fully understood yet. See Deutschländer and Bredenkamp (1999) for the description of the vegetation and habitat characteristics of one locality of *Aloeides dentatis* subsp. *dentatis* at Ruimsig, Roodepoort, Gauteng Province. There is not an ideal habitat of *Aloeides dentatis* subsp. *dentatis* on the site and it is unlikely that the butterfly is present at the site.

***Chrysoresis aureus* (Golden Opal/ Heidelberg Copper)**

The proposed global red list status for *Chrysoresis aureus* according to the most recent IUCN criteria and categories is Endangered (Mecenero *et al.*, 2013) *Chrysoresis aureus* (Golden Opal/ Heidelberg Copper) is a resident where the larval host plant, *Clusia pulchella* is present. However, the distribution of the butterfly is much more restricted than that of the larval host plant (S.F. Henning 1983; Terblanche, Morgenthal & Cilliers 2003). One of the reasons for the localised distribution of *Chrysoresis aureus* is that a specific host ant *Crematogaster liengmei* must also be present at the habitat. Fire appears to be an essential factor for the maintenance of suitable habitat (Terblanche, Morgenthal & Cilliers 2003). Research revealed that *Chrysoresis aureus* (Golden Opal/ Heidelberg Copper) has very specific habitat requirements, which include rocky ridges with a steep slope and a southern aspect (Terblanche, Morgenthal & Cilliers 2003). Owing to a lack of habitat requirements and ideal habitat the presence of the taxon is highly unlikely.

***Lepidochrysops praeterita* (Highveld Blue)**

The proposed global red list status for *Lepidochrysops praeterita* according to the most recent IUCN criteria and categories is Endangered (G.A. Henning, Terblanche & Ball, 2009; Mecenero *et al.*, 2013). *Lepidochrysops praeterita* is a butterfly that occurs where the larval host plant *Ocimum obovatum* (= *Becium obovatum*) is present (Pringle, G.A. Henning & Ball, 1994), but the distribution of the butterfly is much more restricted than the distribution of the host plant. *Lepidochrysops praeterita* is found on selected rocky ridges and rocky hillsides in parts of Gauteng, the extreme northern Free State and the south-eastern Gauteng Province. No ideal habitat appears to be present for the butterfly on the site. It is unlikely that *Lepidochrysops praeterita* would be present on the site and at the footprint proposed for the development.

***Orachrysops mijburghii* (Mijburgh's Blue)**

The proposed global red status for *Orachrysops mijburghii* according to the most recent IUCN criteria and categories is Endangered (Mecenero *et al.*, 2013). *Orachrysops mijburghii* favours grassland depressions where

specific *Indigofera* plant species occur (Terblanche & Edge 2007). The Heilbron population of *Orachrysops mijburghi* in the Free State uses *Indigofera evansiana* as a larval host plant (Edge, 2005) while the Suikerbosrand population in Gauteng uses *Indigofera dimidiata* as a larval host plant (Terblanche & Edge 2007). There is no suitable habitat for *Orachrysops mijburghi* on the site and it is unlikely that *Orachrysops mijburghi* would be present on the site.

Conclusion on threatened butterfly species

There appears to be no threat to any threatened butterfly species if the site is developed.

Assessment of butterfly species that are not threatened but also of high conservation priority

***Metisella meninx* (Marsh Sylph)**

Henning and Henning (1989) in the first South African Red Data Book of Butterflies, listed *Metisella meninx* as threatened under the former IUCN category Indeterminate. Even earlier in the 20th century Swanepoel (1953) raised concern about vanishing wetlands leading to habitat loss and loss of populations of *Metisella meninx*. According to the second South African Red Data Book of butterflies (Henning, Terblanche & Ball, 2009) the proposed global red list status of *Metisella meninx* has been Vulnerable. During a recent large scale atlassing project the *Conservation Assessment of Butterflies of South Africa, Lesotho and Swaziland: Red List and Atlas* (Mecenero *et al.*, 2013) it was found that more *Metisella meninx* populations are present than thought before. Based on this valid new information, the conservation status of *Metisella meninx* is now regarded as Rare (Habitat specialist) (Mecenero *et al.*, 2013). Though *Metisella meninx* is more widespread and less threatened than perceived before, it should be regarded as a localised rare habitat specialist of conservation priority, which is dependent on wetlands with suitable patches of grass at wetlands (Terblanche In prep.). Another important factor to keep in mind for the conservation of *Metisella meninx* is that based on very recent discoveries of new taxa in the group the present *Metisella meninx* is species complex consisting of at least three taxa (Terblanche In prep., Terblanche & Henning In prep.). The ideal habitat of *Metisella meninx* is treeless marshy areas where *Leersia hexandra* (rice grass) is abundant (Terblanche In prep.). The larval host plant of *Metisella meninx* is wild rice grass, *Leersia hexandra* (G.A. Henning & Roos, 2001). Owing to a lack of habitat requirements and ideal habitat the presence of the taxon at the site is highly unlikely.

Fruit chafer beetles

Table 4.20 lists the fruit chafer beetle species (Coleoptera: Scarabaeidae: Cetoniinae) that are of known high conservation priority in the North West Province. No *Ichnestoma stobbiai* or *Trichocephala brincki* were found during the surveys. There appears to be no suitable habitat for *Ichnestoma stobbiai* or *Trichocephala brincki* at the site. There appears to be no threat to any of the fruit chafer beetles of particular high conservation priority if the site were developed.

Scorpions

Table 4.21 lists the rock scorpion species (Scorpiones: Ischnuridae) that are of known high conservation priority in the North West Province. None of these rock scorpions have been found at the site and the habitat does not appear to be optimal.

8.2 SOCIO ECONOMIC FACTORS

8.2.1 SOCIAL AMENITIES

With 597 000 people, the Rustenburg Local Municipality housed 1.1% of South Africa's total population in 2014. Between 2004 and 2014 the population growth averaged 3.11% per annum which is more than double than the growth rate of South Africa as a whole (1.34%). Compared to Bojanala's average annual growth rate (2.26%), the growth rate in Rustenburg's population at 3.11% was slightly higher than that of the district municipality.

The population pyramid reflects a projected change in the structure of the population from 2014 and 2019. The differences can be explained as follows:

- In 2014, there is a significantly larger share of young working age people between 20 and 34 (32.1%), compared to what is estimated in 2019 (30.4%). This age category of young working age population will decrease over time.
- The fertility rate in 2019 is estimated to be slightly higher compared to that experienced in 2014.
- The share of children between the ages of 0 to 14 years is projected to be slightly larger (25.1%) in 2019 when compared to 2014 (24.5%).

In 2014, there were a total number of 50 200 people unemployed in Rustenburg, which is an increase of 7 350 from 42 900 in 2004. The total number of unemployed people within Rustenburg constitutes 35.14% of the total number of unemployed people in Bojanala District Municipality. The Rustenburg Local Municipality experienced an average annual increase of 1.59% in the number of unemployed people, which is worse than that of the Bojanala District Municipality which had an average annual increase in unemployment of 0.67%.

Rustenburg Local Municipality had a total number of 61 500 (29.07% of total households) very formal dwelling units, a total of 83 800 (39.60% of total households) formal dwelling units and a total number of 64 200 (30.35% of total households) informal dwelling units.

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The identified site, Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province was found to be ideal. The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide "One" facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification.

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

A well-diversified business sector curtails leakages or purchasing power to other towns and cities. To ensure that the purchasing power remains "healthy" within the Rustenburg Local Municipality and for a sustainable economic growth, a variety of land uses should be established locally. This creates the opportunity to development new businesses and to improve existing services. In view of the objectives contained within the Rustenburg Spatial Development Framework, (2010 Review),

the Rustenburg Local Municipality envisages to serve the social needs and requirements of the population more properly and to become economically competitive, when compared to other towns and cities.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality.

8.2.2. AIR QUALITY

“The extent and toxicity of emissions is not necessarily a concise indicator of contributions to ground-level air pollution concentrations or of risks to health and the environment. Such contributions are also a function of the height of emission, temporal variations in the release of pollutants, and the proximity of the source to the people or the environment affected by exposure to the pollutant (such as, for instance, children, or the elderly, or people who are ill, or others who may be particularly sensitive receptors to a specific pollutant above a certain concentration). If an industry is operating close to a school or hospital or centre for the elderly, the potential exposure (in combination with the other contributing factors) is high.

Three factors govern the significance of household fuel-burning emissions:

- (i) the low level of emissions (that is, their height above the ground is generally about 3 m, within people’s breathing zone);*
- (ii) the simultaneous occurrence of peak emissions (during the coldest months of winter and in the early mornings and throughout the evenings) and poor atmospheric dispersion (stable atmosphere with low wind speeds, with the possible development of temperature inversions); and*
- (iii) the release of such emissions within high human exposure areas, given that such emissions generally occur in dense, low-income settlements where population density is high (in addition, the pollution is not only outdoors, but frequently indoors as well, due to poor ventilation, so it affects the whole family).*

The significance of vehicle emissions as contributors to air-pollutant concentrations and health risks is similarly increased by the low level (close to the ground) of the emissions, and their proximity to highly populated areas – on highways, for example, with emissions being particularly high when traffic is congested. Vehicle emissions tend to peak early in the morning and in the evenings, when the potential for atmospheric dispersion is reduced (for example, wind speeds are generally low in the early mornings and evenings, reducing their potential for dispersing pollution).

Given the high volumes of pollutants emitted from fuel-burning within the industrial and power-generation sectors, their contribution to ambient concentrations and public health risks is often lower than might be expected. This is because these sources are generally characterized by constant releases, relatively high above ground level, and further away from residential settlements than are household fuel-burning and vehicle emissions.

Ranking the significance of different sources of pollution on the basis of the total emissions for which each source is responsible would, for example, place industrial emissions above household fuel-burning. If the aim is to reduce impacts on human health, however, then household fuel-burning would need to be targeted as a top priority (Scorgie et al., 2004d).

Historically, air pollution control in South Africa has primarily emphasized the implementation of ‘command and control’ measures in the industrial sector. The shift from source-based control, to the management of the air that people breathe, emphasizes the importance of targeting a wider range of sources and using more flexible and varied approaches. It means paying greater attention to ambient air quality, as it is more important (and more cost-effective, in many cases) to make sure that the ambient air complies with air quality standards. This approach ensures that human and environmental health is protected and that the cumulative impact of pollution from a number of sources is addressed.

Approaches adopted or considered for future implementation have included: regulation (for example, the use of Atmospheric Emission Licences for Listed Activities); market instruments (such as atmospheric user-charges and pollution taxes); the

potential for voluntary agreements, education and awareness raising; and emissions trading. International experience shows that adopting a mix of instruments and interventions is more effective than using a single instrument to improve air quality across various types of source. Although direct regulation remains important in controlling industrial sources, there is evidence that specifying emission limits is more effective than specifying the use of particular technologies, so as to give companies flexibility in selecting the method of achieving success that suits them best. This approach is advocated as being more cost-effective and more likely to stimulate technological advances in pollution control methods and production processes.

For large point sources (that is, sources of pollution that are concentrated on one site, but that have large, constant volumes of many types of pollution) that are few in number, instruments such as emissions trading have been advocated as an effective way to manage pollutant emissions and reduce the costs of compliance.

Implementing an efficient social protection system to alleviate poverty is central to maintaining conditions that facilitate not only economic growth but also environmental sustainability. Many South African households – including those with access to electricity – use coal, wood, and paraffin, due to the relative cost-effectiveness of such fuels for heating (that is, space heating) and cooking purposes.

Many low-cost housing developments and informal settlements are located close to industrial and mining operations, as such land is both available and inexpensive. Poorer communities are more likely to suffer from poor service delivery, including inadequate waste removal that sometimes results in refuse being set alight illegally. These examples show that poverty alleviation could help to improve air quality by enabling people to choose practices that are friendlier to the environment.”

https://www.environment.gov.za/sites/default/files/docs/stateofair_airqualityand_sustainable_development.pdf Date visited: 17/03/2020.

The proposed development is planned and will eventually be developed with the above mentioned in mind. The alleviation of poverty (Jobs that will be created).

In addition to the above, it should be noted that the project will however create a certain amount of dust during the construction phase. If proper dust suppression measures are implemented this variable will have very little impact (low in intensity and significance during the construction phase).

8.2.3 NOISE

It is a fact that a certain amount of noise will be generated during the construction phase of the project. Noise levels should however rarely exceed the allowable limits. It is unlikely that the project will create any more noise during the operational phase than that already experienced on site.

8.2.4 ARCHAEOLOGY AND CULTURAL SITES

“In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a Heritage Impact Assessment is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The quickest process to follow for the archaeological component is to contract an accredited specialist (see the web site of the Association of Southern African Professional Archaeologists www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place. The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the

specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources - or at least a letter of exemption from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary, a Phase 2 rescue operation might be necessary. Please note that a nationwide fossil sensitivity map is available on SAHRIS to assist applicants with determining the fossil sensitivity of a study area.

If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for exemption from having to undertake further heritage assessments. Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.

Last mentioned option was decided on for this project which entailed desktop research as part of the assessment. Previous work by the author of this Exemption Letter also serves as reference.

To conclude, based on the aerial images of the area, and the heritage desktop study, it is therefore deemed unlikely that any significant sites, features or material of cultural heritage (archaeological and/or historical) origin and/or significance will exist in the study area & proposed development area. Recent historical activities (mainly farming-related activities) would have impacted on any if they did exist here in the past and would have disturbed or destroyed these to a large degree. Known archaeological and historical sites, features and material have been identified in the larger geographical area and this needs to be taken into consideration during actions related to the proposed development.

It is therefore recommended that Exemption from a Full Phase 1 Heritage Impact Assessment (HIA) for the Proposed Development of the Tharisa Clinic, on Portion 64 (a Portion of Portion 1) of the farm Buffelspoort 343JQ, between Mooinooi and Marikana in the Northwest Province, be granted to the applicants taking into consideration the following:

The subterranean nature of cultural heritage (archaeological and/or historical) resources must always be kept in mind. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward. This could include previously unknown and unmarked graves and/or cemeteries.

Should there be any questions or comments on the contents of this document please contact the author as soon as possible.

8.2.5 AESTHETICS

Visual Intrusion is defined as the level of compatibility or congruence of the project with the particular qualities of the area, or its 'sense of place'. This is related to the idea of context and maintaining the integrity of the landscape or townscape.

High visual intrusion – results in a noticeable change or is discordant with the surroundings;

Moderate visual intrusion – partially fits into the surroundings, but clearly noticeable;

Low visual intrusion – minimal change or blends in well with the surroundings.

The proposed development site is located directly adjacent and to the north-north-east of Road R104 (Rustenburg – Mooinooi/Hartbeespoort Dam road), approximately 1,6 km east of the ATKV Buffelspoort Resort. The site currently lies abandoned. There are three dilapidated/abandoned houses and out buildings on site. Most of the site was part of a garden,

and exotic plant species are the predominant vegetation found on more than two thirds of the site. The visual intrusion is considered to be moderate as the proposed development would fit in well with the nearby developments, it is acknowledged that it will be noticeable, however due to the scale of the proposal, it is unlikely to have a detrimental visual impact.

The proposed development will require additional lighting on and in buildings and possibly along roads. This will change the night landscape from unlit to lit.

8.2.6 AGRICULTURAL POTENTIAL

In 2002 the *Directorate of Land Use and Soil Management* (DLUSM) within DALRRD through the Agricultural Research Councils' (ARC), Institute of Soil, Climate and Water (ISCW) developed a national spatial land capability data set to depict the spatial delineation of the then defined eight land capability classes. The approach followed was based on the approach of Klingebiel and Montgomery (1961) but adapted for South Africa by the Multilateral Technical Committee for Agriculture and Environmental Affairs' Task team, to develop a system for soil and land capability classification, but it further aimed to incorporate the parameters within a Geographic Information System (GIS). The resulted spatial data set was derived at a scale of 1:250 000 with the land type data set being the main input data set for the derived land capability classes together with climatic and terrain parameters. This dataset is used within the screening tool. While the new dataset is more complex than that of Klingebiel *et al*, the latter has clear guidelines and is generally still followed when assigning capability to land. A comparison between the two systems is provided below.

DALRRD (2016)	Klingebiel	Capability	Arability
1-2	viii	Very low	Not arable
3-4	vii	Very low to low	
5-6	vi	Low	
7	v	Low to moderate	
8	iv	Moderate	
9-10	iii	Moderate to high	Arable
11-12	ii	High	
13-14	i	High to very high	
15	i	Very high	

Relationship between grading of the Screening tool and that of Klingebiel *et al*.

According to the agricultural potential map of NDA, the land is arable (*Department of Agriculture, 2019*). The soil on the property was found to be arable but there is no water available for irrigation, making the soil medium potential.

Land capability classes are interpretive groupings of land with similar potential and limitations or similar hazards. Land capability involves consideration of difficulties in land use owing to physical land characteristics, climate and the risks of land damage from erosion and other causes.

The classic eight-class land capability system (Klingebiel & Montgomery, 1961) was adapted for use by the South African Department of Agriculture in their Agriculture Geographic Information System (AGIS). Land capability is classified according to guidelines published by the National Department of Agriculture in AGIS. Land Capability is determined by the collective effects of soil, terrain and climate features and shows the most intensive long-term use of land. At the same time, it indicates the permanent limitations associated with the different land-use classes.

- Order A: Arable land – high potential land with few limitations (Classes i and ii);
- Order B: Arable land – moderate to severe limitations (Classes iii and iv);
- Order C: Grazing and forestry land (Classes v, vi and vii);
- Order D: Land not suitable for agriculture (Class viii).

LAND CAPABILITY			Wildlife	Grazing and Forestry			Crop production			
Order		Class		Forestry	Veld	Pastures	Limited	Moderate	Intensive	Very intensive
Arable	A	i								
		ii								
	B	iii								
		iv								
Non arable	C	v								
		vi								
	vii									
	D	viii								

Note: the shaded area indicates the suitable land use.

Land capability classes – intensity of land uses

The following were found:

- There is no *highly sensitive* land on the site, no irrigation takes place and there is no irrigation water available.
- There is no cultivated land on the site. With the low animal grazing capacity of the veld, the entire property can only not even carry one head of cattle. This is not sustainable as the basis for a viable farming unit

Land capability description

The property is not used for any farming activities. There are a number of homesteads that are vacant.

9. ENVIRONMENTAL IMPACT ASSESSMENT

1. 9.1 ASSESSMENT CRITERIA

Impacts were rated using the following methodology:

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
Duration (time scale)	Short term	Up to 5 years
	Medium term	6 – 15 years
	Long term	More than 15 years
Extent (area)	Local	Confined to study area and its immediate surroundings
	Regional	Region (cadastral, catchment, topographic)
	National	Nationally (The country)
	International	Neighboring countries and the rest of the world.
Magnitude (Intensity)	Low	Site-specific and wider natural and/or social functions and processes are negligibly altered. ((A low intensity impact will not affect the natural, cultural, or social functions of the environment).
	Medium	Site-specific and wider natural and/or social functions and processes continue albeit in a modified way. (Medium scale impact will alter the different functions slightly).

Nature of the potential impact		Description of the effect, and the affected aspect of the environment
	High	Site-specific and wider natural and/or social functions and processes are severely altered. (A High intensity impact will influence these functions to such an extent that it will temporarily or permanently cease to exist).
Probability	Improbable	Possibility of occurrence is very low. (Such an impact will have a very slight possibility to materialise, because of design or experience).
	Possible	There is a possibility that the impact will occur
	Probable	It is most likely that the impact will occur
	Definite	The impact will definitely occur
Significance	Insignificant	Impact is negligible and will not have an influence on the decision regarding the proposed activity (No mitigation is necessary)
	Very Low	Impact is very small and should not have any meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Low	The impact may not have a meaningful influence on the decision regarding the proposed activity (No mitigation is necessary)
	Medium	The impact should influence the decision regarding the proposed activity (The project can only be carried through if certain mitigatory steps are taken)
	High	The impact will influence the decision regarding the proposed activity
	Very High	The proposed activity should only be approved under special circumstances
Reversibility	Low	There is little chance of correcting the adverse impact
	Medium	There is a moderate chance of correcting the adverse impact
	High	There is a high chance in correcting the adverse impact
Risk	Low	Assessing a risk involves an analysis of the consequences and likelihood of a hazard being realized. In decision-making, low-consequence / low-probability risks (green) are typically perceived as acceptable and therefore only require monitoring.
	Medium	Other risks (amber) may require structured risk assessment to better understand the features that contribute most to the risk. These features may be candidates for management
	High	High-consequence / high-probability risks (red) are perceived as unacceptable and a strategy is required to manage the risk.

Attributes associated with the alternatives were assessed and is outlined below:

Geographical attributes

The Geographical attributes of an area relates to the characteristics of a particular region, area or place. It influences the determination of site alternatives as it relates to the location of a site in relation to relevant features in the area.

Physical attributes

Physical attributes of an area relates to the processes and patterns in the natural environment. For the purpose of this assessment, the following processes and patterns have been investigated. Geology, soil, topography and landforms, climate and meteorology, surface water and ground water.

Biological attributes

Biological attributes for the purpose of this study includes the distribution of species and ecosystems in geographic space and through geological time. Organisms and biological communities often vary in a regular fashion along geographic gradients of latitude, elevation, isolation and habitat area. The two main branches assessed will be:

Phytogeography is the branch of biogeography that studies the distribution of plants.

Zoogeography is the branch that studies distribution of animals.

Social attributes

Social attributes is closely related to social theory in general and sociology in particular, dealing with the relation of social phenomena and its spatial components.

Economic attributes

Economic attributes includes the location, distribution and spatial organization of economic activities and also takes into account social, cultural, and institutional factors in the spatial economy of the development.

Heritage attributes

The broad generic term Cultural Heritage Resources refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of paleontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural attributes

Cultural attributes relates to the specific characteristics such as language, religion, ethnic and racial identity, and cultural history & traditions of people. These attributes influences family life, education, economic and political structures, and, of course, business practices.

It should be noted that the above mentioned attributes do not occur in isolation and it is not uncommon for an identified impact to overlap with two or more of these attributes. Also note, not all risks require comprehensive and detailed assessment. Solid problem formulation should allow decision-makers to evaluate the extent of subsequent analysis required. The level of effort put into assessing each risk should be proportionate to its significance and priority in relation to other risks, as well as its complexity, by reference to the likely impacts. Consideration should be given to stakeholders' perceptions of the nature of the risk.

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
PREFERRED ALTERNATIVE: <i>Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province</i>					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic	6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be eradicated in order to establish a Clinic. Protected tree species <i>Sclerocarya birrea</i> (Marula Tree) and <i>Combretum imberbe</i> (Leadwood) that occur very sparingly (only one individual of each was observed) at the site	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management Programme.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite	Appoint a Fauna and Flora Habitat Specialist to determine the sensitivity of the site and to propose mitigation measures.	Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk		Medium	Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)

PREFERRED ALTERNATIVE: *Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province*

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
				protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided	
	Plan for the provision of services for the development.	Duration	Long term	Determine the availability of services to ensure a sustainable development.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the provision and maintenance of abluion facilities for construction workers to prevent pollution of surface and underground water.	Duration	Short term	Provide portable abluion facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised. The findings of a Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)

PREFERRED ALTERNATIVE: *Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province*

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to safeguard open trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Duration	Short term	Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a result of non- compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
PREFERRED ALTERNATIVE: <i>Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province</i>					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
		Risk	Low	the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Medium
	Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					
	Plan to ensure that the services (Solid waste, bulk water supply water, sewage, electricity and storm water) are designed and constructed in such a manner that it will not cause Environmental degradation.	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development. Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the increase in traffic volumes that will result from the proposed development	Extent	Local	The Town and Regional Planner will have to design the layout of the development in such a way that accessibility will not become a problem.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: <i>Establishment of a Clinic, located on Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province</i>					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic	2,2489 ha of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be eradicated in order to establish a Clinic. This area is located on a sensitive rocky and mountainous area	Duration	Long term	Obtain the necessary environmental authorization for the development. Implement the mitigation measures as described in the Environmental Management Programme. Appoint a Fauna and Flora Habitat Specialist to determine the sensitivity of the site and to propose mitigation measures.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	High		High
	The site is located on a steep slope with rocky outcrops. Installation of services will be difficult as a result of the Geology.	Duration	Long term	Appoint an Engineer to design the services and the foundations. Levels by means of cut and fill will have to be constructed. These must be designed a an Engineer	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)

ALTERNATIVE 1: Establishment of a Clinic, located on Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	Construction will be expensive.	Risk	High		High
	Plan to rehabilitate disturbed surfaces which can lead to erosion and dust pollution. Prepare method statements to this effect.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the eradication of foreign and invader plant species which are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan for the provision and maintenance of ablution facilities for construction workers to prevent pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to manage possible impacts that the project can have on the soil and geology.	Duration	Long term	Properly plan the construction phase in such a manner that impacts on the soil and geology of the area can be minimised.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High	High	
Risk		Low	The findings of a Geotechnical Engineer must be incorporated into the design of the project. Plan to prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Medium	
Plan for the removal of vegetation (which will lead to the destruction of faunal and floral habitats) during the construction phase.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Plan to safeguard open trenches in order to alleviate the danger of collapse on people or on equipment and people- especially small children who may fall into it.	Duration	Short term	Ensure that the trenches stay open for as short a time as possible. Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)

ALTERNATIVE 1: Establishment of a Clinic, located on Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
Indirect impacts:					
Geographical Physical Social Economic	Plan to control dust generation from the proposed project which could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction. Start the rehabilitation of disturbed surfaces as soon as possible	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan and compile method statements to implement measures for the prevention and or handling of spills of lubricants / oils that can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours. Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to provide method statements on the handling of waste materials such as glass, plastic, metal or paper which may present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner. NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Plan to ensure all involved is aware of the possible social and environmental problems that may be experienced as a result of non-compliance to the relevant legislation.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act. Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Local
		Magnitude (Intensity)	Medium		Medium
Probability		Probable	Probable		
Significance		Medium	Medium		
Reversibility		High	High		
Risk		Low	Medium		
Plan to create new employment opportunities. Plan to use local labour to ensure local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational Health and Safety Act and the Employment Equity Act.	Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	Medium		Medium	
	Risk	Low		Medium	
Cumulative impacts:					
	Plan to ensure that the services (Solid waste, bulk water supply water, sewage, electricity and storm water) are designed and constructed in	Extent	Local	Appoint a Civil Engineer to assess the availability and design of services to ensure a sustainable development.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 1: Establishment of a Clinic, located on Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	such a manner that it will not cause Environmental degradation.	Reversibility	High	Ensure that the development is constructed as planned.	High
		Risk	Low		Medium
	Plan for the increase in traffic volumes that will result from the proposed development	Extent	Local	The Town and Regional Planner will have to design the layout of the development in such a way that accessibility will not become a problem.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Planning and design phase)					
ALTERNATIVE 3: (No-Go Option)					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	No indigenous vegetation will be removed.	Duration	Long term	No mitigation measures required.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	Low		Low
		Risk	Medium		Medium
Indirect impacts:					
Geographical Physical Social Economic Cultural	No new employment opportunities will be created during the planning and design phase. No skills enhancement will take place If this option is implemented, the projected boost to the local and regional economy will not take place.	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	If this option is implemented, the projected boost to the local and regional economy will not take place. No new employment opportunities will be created. No improvement to local skills development will take place..	Extent	Local	Ensure that the development is constructed and operated as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

PREFERRED ALTERNATIVE: *Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province*

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic	6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be eradicated in order to establish a Clinic.	Duration	Long term	Ensure that no development takes place before the necessary environmental authorization has been obtained. Ensure that the development is constructed with the mitigation measures as described by the Fauna and Flora Habitat Specialist in mind.	Long term
		Extent	Local		Local
		Magnitude (Intensity)	High		High
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Low		Low
		Risk	Medium		Medium
	Un-rehabilitated, disturbed surfaces can lead to erosion and dust pollution.	Duration	Short term	Start the rehabilitation of disturbed surfaces as soon as possible. Spray bare surfaces with water to prevent dust pollution.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Foreign plant species are likely to invade disturbed areas.	Duration	Short term	Start the extermination of any invasive species as soon as possible and maintain the eradication programme.	Medium term
		Extent	Local		Local
		Magnitude (Intensity)	Low		Low
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Poorly planned ablution facilities for construction workers may cause pollution of surface and underground water.	Duration	Short term	Provide portable ablution facilities that will not cause pollution during the construction phase.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
The proposed project can impact on the soil and geology.	Duration	Long term	The findings of a Geo-Technical Engineer must be incorporated into the design of the project. Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Long term	
	Extent	Local		Local	
	Magnitude (Intensity)	Low		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
The vegetation of the area will be removed during the construction phase, which will destroy floral and faunal habitats.	Duration	Short term	Start with the rehabilitation of vegetation to minimize the negative effects of the removal of plants. The rule must be to minimize the disturbance of animal life by keeping the footprint as small as possible. No snares may be set.	Short term	
	Extent	Local		Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	
	Significance	Medium		Medium	
	Reversibility	High		High	
	Risk	Low		Medium	
Open trenches can be dangerous as they can either	Duration	Short term	Ensure that the trenches are dug according to specifications.	Short term	
	Extent	Local		Local	

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)

PREFERRED ALTERNATIVE: *Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province*

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	collapse on people or on equipment and people- especially small children, can fall into it.	Magnitude (Intensity)	Medium	Ensure that the trenches stay open for as short a time as possible.	Medium
		Probability	Definite		Definite
		Significance	Medium	Ensure that open trenches are demarcated as required by the Occupational Health and Safety Act.	Medium
		Reversibility	High		High
		Risk	Low		Medium
Indirect impacts:					
Geographical Physical Social Economic	Dust generation from the proposed project could impact on the surrounding area.	Duration	Short term	Spray water on open surfaces to ensure that dust does not cause air pollution during construction.	Short term
		Extent	Local		Local
		Magnitude (Intensity)	Low	Start the rehabilitation of disturbed surfaces as soon as possible	Low
		Probability	Probable		Probable
		Significance	Medium		Medium
		Reversibility	High		High
		Risk	Low		Medium
	Spills of lubricants / oils can take place on bare soil.	Extent	Local	Prevent spills of lubricants/oils that can take place on bare soil. This will include the use of drip trays for vehicles that are standing for more than 24 hours.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable	Ensure that all construction vehicles are in good working order and not leaking oil and or fuel. No vehicles may be serviced on site.	Probable
		Significance	Medium		Medium
		Reversibility	High		High
	Risk	Low	Medium		
	Waste materials such as glass, plastic, metal or paper present a possible pollution hazard	Extent	Local	Implement the management plan to ensure that: All construction rubble is disposed of in a safe and environmentally acceptable manner.	Local
		Magnitude (Intensity)	Low		Low
		Probability	Probable	NO concrete, gravel or other rubbish will be allowed to remain on site after the construction phase. All cement is housed as to prevent spills (due to rain and or handling errors). NO glass, plastic, metal, or paper shall be allowed to pollute the area.	Probable
		Significance	Medium		Medium
		Reversibility	High		High
	Risk	Low	Medium		
	Non-compliance to the relevant legislation may cause social and environmental problems.	Extent	Local	Ensure that contractors (construction phase) abide by all the requirements of the Occupational Health and Safety Act.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Probable	Ensure that all contractors are aware of the consequences of non-compliance to the relevant legislation regarding the above-mentioned act as well as with regard to the environment (acts, regulations, and special guidelines).	Probable
		Significance	Medium		Medium
		Reversibility	High		High
Risk	Low	Medium			
New employment opportunities will be created. Local skills development will take place.	Extent	Local	No mitigation measures needed apart from the fact that contractors will have to ensure that they abide to the requirements of the Occupational	Local	
	Magnitude (Intensity)	Medium		Medium	
	Probability	Definite		Definite	

ENVIRONMENTAL IMPACT ASSESSMENT (Construction phase)					
PREFERRED ALTERNATIVE: <i>Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province</i>					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
		Significance	Medium	Health and Safety Act and the Employment Equity Act.	Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
Cumulative impacts:					
Geographical Physical Social Economic	Enhancement of the social well-being of the local communities as new employment opportunities will be provided by the development	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		Medium
		Reversibility	Medium		Medium
		Risk	Low		Medium
	<u>Solid waste:</u> The proposed development will add additional solid waste into the existing waste stream of the Local Municipality. <u>Sewage:</u> The proposed development will add additional sewage into the existing sewage stream of the Local Municipality. <u>Water supply:</u> The proposed development will add pressure to the water supply of Local Municipality's Water.	Extent	Local	Ensure that the development is constructed as planned.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Low		Medium
	<u>Traffic:</u> The proposed development will result in an increase in traffic in the immediate surroundings of the proposed development.	Extent	Local	Ensure that the development is constructed as planned by the Town and Regional Planner	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium		High
		Reversibility	Low		Low
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)					
PREFERRED ALTERNATIVE: <i>Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province</i>					
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
DIRECT IMPACTS:					
Geographical Physical Social Economic Cultural	Poorly maintained and serviced infrastructure may cause environmental problems.	Extent	Local	It will be the responsibility of the developer to maintain the infrastructure on site.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Indirect impacts:					
Geographical		Extent	Local		Local

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)

PREFERRED ALTERNATIVE: Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province

Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
Physical Social Economic Cultural	Lack of rehabilitation may cause problems	Magnitude (Intensity)	Medium	It will be the responsibility of the developer to ensure that the rehabilitation plan is implemented	Medium
		Probability	Definite		Definite
		Significance	Medium- high		High
		Reversibility	High		Medium
		Risk	High		High
Cumulative impacts:					
Geographical Physical Social Economic Cultural	The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium
Geographical Physical Social Economic Cultural	A well-diversified business sector curtails leakages or purchasing power to other towns and cities. To ensure that the purchasing power remains "healthy" within the Rustenburg Local Municipality and for a sustainable economic growth, a variety of land uses should be established locally. This creates the opportunity to development new businesses and to improve existing services. In view of the objectives contained within the Rustenburg Spatial Development Framework, (2010 Review), the Rustenburg Local Municipality envisages to serve the social needs and requirements of the population more properly and to become economically competitive, when compared to other towns and cities. The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of	Extent	Local	No mitigation measures required.	Local
		Magnitude (Intensity)	Medium		Medium
		Probability	Definite		Definite
		Significance	High		High
		Reversibility	High		High
		Risk	Medium		Medium

ENVIRONMENTAL IMPACT ASSESSMENT (Operational Phase)

PREFERRED ALTERNATIVE: *Establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province*

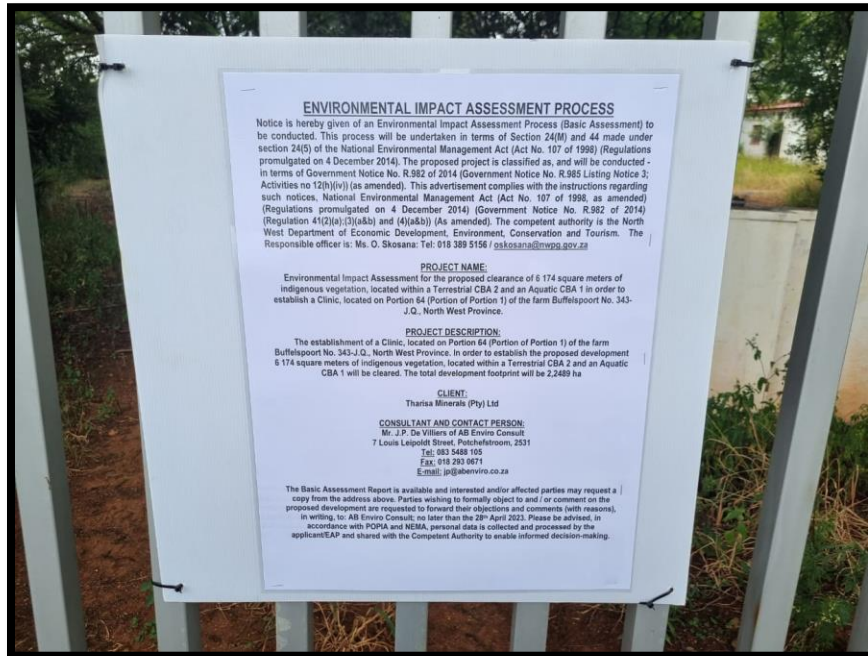
Environmental Attribute	Potential impacts and risks	Assessment criteria	Assessment rating (With mitigation)	Proposed mitigation	Assessment rating (Without mitigation)
	the Rustenburg Local Municipality.				

10. PUBLIC PARTICIPATION.

10.1 ADVERTISEMENT AND NOTICE

Publication name	Rustenburg Herald	
Date published	24/03/2023	
Site notice 1 position	Latitude	Longitude
	25°45'45.42"S	27°30'12.67"E
Date placed	20/01/2023	

PROOF OF SITE NOTICE



ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

Notice is hereby given of an Environmental Impact Assessment Process (Basic Assessment) to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Regulations promulgated on 4 December 2014). The proposed project is classified as, and will be conducted in terms of Government Notice No. R.982 of 2014 (Government Notice No. R.985 Listing Notice 3; Activities no 12(h)(iv)) (as amended). This advertisement complies with the instructions regarding such notices, National Environmental Management Act (Act No. 107 of 1998, as amended) (Regulations promulgated on 4 December 2014) (Government Notice No. R.982 of 2014) (Regulation 41(2)(a),(3)(a&b) and 41(a&b)) (As amended). The competent authority is the North West Department of Economic Development, Environment, Conservation and Tourism. The Responsible officer is: Ms. D. Skosana: Tel: 018 389 5156 / skosana@mmpa.gov.za

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

PROJECT DESCRIPTION:

The establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province. In order to establish the proposed development 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be cleared. The total development footprint will be 2,2489 ha

CLIENT:

Tharisa Minerals (Pty) Ltd

CONSULTANT AND CONTACT PERSON:

Mr. J.P. De Villiers of AB Enviro Consult
7 Louis Leipoldt Street, Potchefstroom, 2531
Tel: 083 348 105
Fax: 018 293 9071
E-mail: jp@abenviro.co.za

The Basic Assessment Report is available and interested and/or affected parties may request a copy from the address above. Parties wishing to formally object to and/or comment on the proposed development are requested to forward their objections and comments (with reasons), in writing, to: AB Enviro Consult: no later than the 28th April 2023. Please be advised, in accordance with POPIA and NEMA, personal data is collected and processed by the applicant/EAP and shared with the Competent Authority to enable informed decision-making.

24 MAART 2023

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NOTICE. ZIETSMAN-HORN INC'ING. In the ESTATE of the late REUBEN HAYES. Identity number: 490413 5005 087. A winch operator, married in community of property to Martha Johanna Hayes, residing at 574 Heerivier LA Style Estates, Waterfall East, Rustenburg - 0259, North West Province. Date of Birth: 13th April 1949. Date of Death: 13th December 2020. MASTER'S REFERENCE NUMBER - 340/2021 (MAHKENG). Kindly take note that the First and Final Liquidation & Distribution Account in the above estate, will lay open for inspection for a period of 21 days from date of this advertisement at the offices of the Master of the High Court MMABATHO and the Magistrate's Court RUSTENBURG. The Executor, c/o ZIETSMAN-HORN INC. PO BOX 54, 208 Beyers Naude Avenue, RUSTENBURG - 0300. Ref: JWH/ADP/1698.

NOTICE. ZIETSMAN-HORN INC'ING. In the ESTATE of the late WENDY ANN MALAN. Identity number: 470119 0115 088. An unmarried pensioner, residing at Portion 150 of the farm Rhenosterfontein 336, Rustenburg - 0299, North West Province. Date of Birth: 19th January 1947. Date of Death: 11th December 2022. MASTER'S REFERENCE NUMBER - 1001/2023 (MAHKENG). Notice is hereby given to the debtor and creditor's in the above deceased estate to pay their debts and to lodge their claims at the offices of the Executor/Agent for the Estate within 30 days of the date of this notice. The Executor, c/o ZIETSMAN-HORN INC. PO BOX 54, 208 Beyers Naude Avenue, RUSTENBURG - 0300. Ref: JWH/ADP/1764.

NOTICE. ZIETSMAN-HORN INC'ING. In the ESTATE of the late JAMES JOHANNES JOOSTE Identity number: 531125 5074 08 5. An unmarried pensioner, residing at 11 Nickel Avenue, Rustenburg - 0299, North West Province. Date of Birth: 23th November 1963. Date of Death: 28th January 2023. MASTER'S REFERENCE NUMBER - 1220/2023 (MAHKENG). Notice is hereby given to the debtor and creditor's in the above deceased estate to pay their debts and to lodge their claims at the offices of the Executor/Agent for the Estate within 30 days of the date of this notice. The Executor, c/o ZIETSMAN-HORN INC. PO BOX 54, 208 Beyers Naude Avenue, RUSTENBURG - 0300. Ref: JWH/ADP/1396.

NOTICE. PUBLIC NOTICE. Notice is hereby given in terms of section 61(4) (a)(b) of the Rustenburg Local Municipality Outdoor Advertising By-Law gazette number 8076 which was gazetted on the 11 June 2015, that **OMPHELE KANYANE** would like to place a double-sided billboard at 341 FARM, SPRUITfontein, C51. Advertisers are hereby officially drawn to the fact that in terms of section 6 (6) of the by-law that any person proposing to submit comments or representation or lodge an objection as contemplated shall address such comments, representations, or objections to both the municipality and the application concerned. Comments must be submitted to Rustenburg Local Municipality within the period of 21 days from the date of advertisement. The following individuals are to be contacted. For enquiries please contact: Lerato Katane/Disebogeng Mabala/Nonono Marabe. 014-590 3435/3527/3394. Email: lkatane@rustenburg.gov.za / odtshwene@rustenburg.gov.za.

NOTICE. ENVIRONMENTAL IMPACT ASSESSMENT APPLICATION. In terms of the National Environmental Management Act (Act No. 107 of 1998) and the EIA regulations published in Government Notices No. 324-327, notice is given of the following Environmental Impact Assessment application: The proposed development will include the expansion of existing poultry farming activities and supporting infrastructure located on a Portion of Portions 3 and 4 of the farm Karespoort 8016, near Registration Division J.P. North West, Eastern. The existing operations will include the expansion from broilers to a hatchery with the increase in poultry per facility. Applicant: Ruvandek Landgoed CC. Location: The site is located approximately 20 km north-east of Zwartkops (25°25'S; 28°14'E). Consultant: Global Green Environmental Consultants. Contact Person: Charlotte Clifters, Cell: 072 573 8962. E-mail: charlotte@globalgreen.co.za. Making the above into consideration, this Environmental Assessment application will be submitted to the North West Department of Economic Development, Environment, Conservation and Tourism. In order to ensure that you are identified as an interested and/or affected party please submit your name, contact information and interest in the matter in writing to the consultant given above within 30 days from the date of this notice.

NOTICE. ENVIRONMENTAL IMPACT ASSESSMENT PROCESS. Notice is hereby given of an Environmental Impact Assessment Process (Basic Assessment) to be conducted. This process will be undertaken in terms of Section 24(1) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Regulations promulgated on 4 December 2014). The proposed project is classified as, and will be conducted, in terms of Government Notice No. R.982 of 2014 (Government Notice No. R.985 Listing Notice 3, Activities no 12(h)(iv)) (as amended). This advertisement complies with the instructions regarding such notices. National-Environmental Management Act (Act No. 107 of 1998, as amended) (Regulations promulgated on 4 December 2014) (Government Notice No. R.982 of 2014) (Government Notice No. R.985 of 2014). The competent authority is the North West Department of Economic Development, Environment, Conservation and Tourism. The Responsible officer is: Ms. O. Sizwana. Tel: 018 389 5156/ ooskosana@nwdep.gov.za. PROJECT NAME: Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343 J.Q., North West Province. PROJECT DESCRIPTION: The establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343 J.Q., North West Province. In order to establish the proposed development 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be cleared. The total development footprint will be 2 248m². CLIENT: Tharisa Minerals (Pty) Ltd. CONSULTANT AND CONTACT PERSON: Mr. J.P. De Villiers of AB Enviro Consult; 7 Louis Leipoldt Street, Potchefstroom, 2531. Tel: 083 5488 105. Fax: 018 263 9271. E-mail: j.p.de.villiers@abenviro.co.za. The Basic Assessment Report is available and interested and/or affected parties may request a copy from the address above. Parties wishing to formally object to and / or comment on the proposed development are requested to forward their objections and comments (with reasons), in writing, to: AB Enviro Consult, no later than the 28th April 2023. Please be advised, in accordance with POPIA and NEMA, personal data is collected and processed by the applicant/EAP and shared with the Competent Authority to enable informed decision-making.

2
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2
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Vacancies

AWETHU
SCAFFOLD
ASSURANCE OF TECHNICAL EXCELLENCE
ADVANCING SAFETY TO NEW HEIGHTS!
VACANCY:
MATERIAL CONTROLLER
~ Good communication skills.
~ Must be bilingual (Afrikaans & English).
~ Must be computer literate.
~ Ability to work under pressure.
~ Own Transport.
~ Good Christian values
CLOSING DATE & TIME: 28 MARCH 2023.
E-Mail: hr@awethuscaffold.co.za
GOD BLESS!!

Sitona
Group of Companies
VACANCY
ACCOUNTANT
Sitona in Rustenburg is looking for a dynamic detail-oriented qualified accountant to join our team.
Sitona in Rustenburg is looking for a dynamic detail-oriented qualified accountant to join our team.
Minimum qualifications and experience
• Relevant Diploma/ Degree in Accounting
• Minimum 5 years' proven experience in an accounting/ financial management position
• Sound experience with VAT, SARS, AFS, BBBEE and Auditing
• Experience in the Mining and Transport environment and/or Supply Chain Management will be an advantage
• Advance Computer literacy in Pastel, MS Office suite (incl. Projects)
Submit applications and copies of qualifications in PDF format only via email to hr@sitona.biz
Reference no. ACC/2023
Closing date: 31/03/2023

VACANCIES
NORTHAM
ELAND
Eland Platinum Mine is a mining operation which forms part of the Northam Platinum Limited group. It is situated near the vibrant towns of the North West Province - Brits and Hartbeespoort and Pretoria, the administrative capital city of South Africa. The mine is a high quality growth-enabling asset currently in a development phase and has a life expectancy of 30 years. The Eland mining operation is a shallow hybrid UG2 PGMs reef, built in decline shafts that give access to the orebody reserves.
MINE TECHNICAL SERVICES MANAGER
GRADE: DU UPPER BAND

K5 24/3

NOTICE. ENVIRONMENTAL IMPACT ASSESSMENT PROCESS. Notice is hereby given of an Environmental Impact Assessment Process (Basic Assessment) to be conducted. This process will be undertaken in terms of Section 24(M) and 44 made under section 24(5) of the National Environmental Management Act (Act No. 107 of 1998) (Regulations promulgated on 4 December 2014). The proposed project is classified as, and will be conducted in terms of Government Notice No. R.982 of 2014 (Government Notice No. R.985 Listing Notice 3; Activities no 12(h)(iv)) (as amended). This advertisement complies with the instructions regarding such notices, National-Environmental Management Act (Act No. 107 of 1998, as amended) (Regulations promulgated on 4 December 2014) (Government Notice No. R.982 of 2014) (Regulation 41(2)(c)) (As amended). The competent authority is the North West Department of Economic Development, Environment, Conservation and Tourism. The Responsible officer is: Ms. O. Skosana: Tel: 018 389 5156/ oskosana@nwpg.gov.za. PROJECT NAME: Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343 J.Q., North West Province. PROJECT DESCRIPTION: The establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province. In order to establish the proposed development 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 will be cleared. The total development footprint will be 2,2489 ha. CLIENT: Tharisa Minerals (Pty) Ltd. CONSULTANT AND CONTACT PERSON: Mr. J.P. De Villiers of AB Enviro Consult; 7 Louis Leipoldt Street, Potchefstroom, 2531; Tel: 083 5488 105; Fax: 018 293 0671; E-mail: jp@abenviro.co.za. The Basic Assessment Report is available and interested and/or affected parties may request a copy from the address above. Parties wishing to formally object to and / or comment on the proposed development are requested to forward their objections and comments (with reasons), in writing, to: AB Enviro Consult; no later than the 28th April 2023. Please be advised, in accordance with POPIA and NEMA, personal data is collected and processed by the applicant/EAP and shared with the Competent Authority to enable informed decision-making.

K6 24/3

10.2. DETERMINATION OF APPROPRIATE MEASURES

Details of the measures taken to include all potential I&APs as required by Regulation 41(2)(e) and 41(6) of GN R.982.

Key stakeholders (other than organs of state) identified in terms of Regulation 40(2)(d) of GN R.982:

Title, Name and Surname	Affiliation/ key stakeholder status	Contact details (tel number or e-mail address)
NA	Neighbour	Letter Drop see photo evidence



10.3 AUTHORITY PARTICIPATION

Authorities and organs of state identified as key stakeholders. Key stakeholders identified in terms of Regulation 7(1) and (2) and Regulation 40(2) (a)-(c) of GN R.982:

Authority/Organ of State	Contact person (Title, Name and Surname)	Tel No	Fax No	e-mail	Postal address
Department of Water and Sanitation	Mr TP Ntili	(018) 387 9547	NA		Chief Director: North West Dept. of Water and Sanitation Private Bag X5 MMABATHO 2735
Head of Department: North-West Department of Agriculture and Rural Development	Dr. P. Mokaila	018-3895723	018-389 5090	pmokaila@nwpg.gov.za	Private Bag X2039 Mmabatho 2735
North West Department of Biodiversity	MJ Denga	018 389 5719/ 5431/ 5688	018 392 4377	dseshabela@nwpg.gov.za	Private Bag X2039 Mmabatho 2735
Bojanala District Municipality	The District Municipal Manager	014 590 4500	014 592 6085		PO Box 1993, Rustenburg, 0300
Adv V. Makona Rustenburg LM	The Municipal Manager	014 590 3551	014 592 0181		PO Box 16, RUSTENBURG, 0300
The councilor ward 32 Rustenburg LM	Councilor JOHN SALANG	014 590 3551	014 592 0181		PO Box 16, RUSTENBURG, 0300
NW: Department Public Works and Roads	Mr Sydney Ntlatleng	018 388 1378	018 388 1395		Private Bag X 2080, Mmabatho, 2735
SANRAL	Mr. P. Hlala	012 844 8000	012 844 8200		PO Box 415 Pretoria 0001
SAHRA				SAHRIS	
Eskom	Mr M. Dala			dalaME@eskom.co.za	

PLEASE SEE PROOF BELOW

Proof of courier to DWS:



AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

Dr P. Mokaila
Department: Agriculture and Rural Development
Private Bag X2039
Mmabatho
2735

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

AB ENVIRO CONSULT was appointed by **Tharisa Minerals Proprietary Limited** to submit an application to the Department of Economic Development, Environment, Conservation and Tourism, North West Province for the above mentioned proposed development. Attached please find a notification of the proposed development and an copy of the Basic Assessment report for your comments.

If no response is however received from your Department/organisation by the 28th April 2023, it will be assumed that your department/organisation does not wish to comment on this matter and the application will be processed further. Please be advised, in accordance with POPIA and NEMA, personal data is collected and processed by the applicant/EAP and shared with the Competent Authority to enable informed decision-making.

Please do not hesitate to contact us should any further information or clarification be required.

Yours sincerely,

Mr JP de Villiers
EAP-EAPASA: 2019/808

PROF A B DE VILLIERS (M Sc, Ph D, SACNASP)
MR.J.P. DE VILLIERS (M Sc, EAP-EAPASA, IAIA); MRS.J.E. DU PLOOY (M.E.M: EAP-EAPASA, IAIA)



AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Polchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

Mr M. J. Denga
Directorate: Biodiversity Management and Conservation
Private Bag X2039
Mmabatho
2735

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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7 Louis Lelpoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

Mr C Lobakeng
Chief Director: North West Dept. of Water and Sanitation
Cnr Dr. James Moroka Drive and Sekame Road
Megacity Shopping Centre
Unit no. 99, Ground Floor
MMABATHO
2735

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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MR.J.P. DE VILLIERS (M Sc, EAP-EAPASA, IAIA); MRS.J.E. DU PLOOY (M.E.M; EAP-EAPASA, IAIA)



AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Polchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

Mr. Motsepe Phahlane
Directorate: Transport Infrastructure (Roads)
Private Bag X2080
Mmabatho
2735

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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Reg no. 2000/016653/23

7 Louis Lelipoldt Street,
Polchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

SANRAL
Mr. P Hlala
PO Box 415
Pretoria
0001

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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Reg no. 2000/016653/23

7 Louis Lelploldi Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

Eskom
Mr. M Dala
DalaME@eskom.co.za

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

The District Municipal Manager
Bojanala District Municipality
PO Box 1993
Rustenburg
0300

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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EAP-EAPASA: 2019/808

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AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

The Municipal Manager
Adv. V. Moakona
Rustenburg Local Municipality
P O Box 16
Rustenburg
0300

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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AB ENVIRO-CONSULT CC

Reg no. 2000/016653/23

7 Louis Leipoldt Street,
Potchefstroom, 2531
Tel: + 27 (83) 5488 105
E-mail: jp@abenviro.co.za

The councilor ward 32,
Councilor JOHN SALANG
Rustenburg Local Municipality
P O Box 16
Rustenburg
0300

24/03/2023

Dear Sir/Madam

PROJECT NAME:

Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1 in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

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10.4 ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summary of main issues raised by I&APs	Summary of response from EAP
To follow as part of Final BAR	NA

2. 10.5 COMMENTS AND RESPONSE REPORT

I&AP registered:	Comment received:	Response by the EAP:
To follow as part of Final BAR		

11. SUMMARY OF THE FINDINGS AND RECOMMENDATIONS OF SPECIALISTS

11.1 ECOLOGICAL IMPACT ASSESSMENT (See Appendix A for a copy of this report)

11.2.1 Objectives of the habitat study

- Surveys to investigate key elements of habitats on the site, relevant to the conservation of fauna and flora.
- Recording of any sightings and/or evidence of existing fauna and flora.
- The selective and careful collecting of voucher specimens of invertebrates where deemed necessary.
- An evaluation of the conservation importance and significance of the site with special emphasis on the current status of threatened species.
- Recording of possible host plants or foodplants of fauna such as butterflies.
- Literature investigation of possible species that might occur on site.
- Integration of the literature investigation and field observations to identify potential ecological impacts that could occur as a result of the development.
- Integration of literature investigation and field observations to make recommendations to reduce or minimise impacts, should the development be approved

11.2.2 Methods:

A desktop study comprised not only an initial phase, but also it was used throughout the study to accommodate and integrate all the data that become available during the field observations.

Survey by R.F. Terblanche during March 2023 was conducted to note key elements of habitats on the site, relevant to the conservation of fauna and flora. The main purpose of the site visits was ultimately to serve as a habitat survey that concentrated on the possible presence or not of threatened species and other species of high conservation priority.

11.2.3 Conclusion:

A large part of the site consists of buildings and old garden areas where alien invasive plant species are conspicuous. Extensive covers of alien invasive weed species are present at some areas. Alien invasive herbaceous weeds at the site include *Tagetes minuta*, *Bidens bipinnata*, *Bidens pilosa*, *Gomphrena celosioides*, *Schkuhria pinnata*, *Chenopodium album*, *Guileminea densa*, *Alternanthera pungens*, *Coreopsis lanceolata*, *Zinnia peruviana* and *Flaveria bidentis*. Vegetation at the remaining disturbed savanna patches contains indigenous grasses, forbs and trees. Indigenous trees at the site include *Vachellia nilotica*, *Vachellia tortilis* subsp. *heteracantha*, *Dichrostachys cinerea*, *Searsia lancea* and *Ziziphus mucronata*. Alien invasive trees include *Melia azedarach*, *Jacaranda mimosifolia* and *Opuntia ficus-indica*. Other exotic plant species such as *Bougainvillea x buttiana*, *Plumeria rubra* and *Catharanthus roseus* are also part of old gardens at the site. Indigenous herbaceous species include *Helichrysum argyrosphaerum*, *Commelina africana* and *Corchorus asplenifolius*. Indigenous grass species include *Aristida congesta*, *Cynodon dactylon*, *Eragrostis lehmanniana*, *Heteropogon contortus*, *Melinis repens* and *Panicum maximum*.

No wetlands or rocky ridges are found at the site. A Vulnerable ecosystem, the Marikana Thornveld (SVcb 6), is mapped for the site. During surveys at the site, it was found that the original vegetation type is extensively and highly modified, at a large part of the site and that the scope for the remaining, partly isolated patch of more natural vegetation at the site to contribute significantly to the conservation of Marikana Thornveld, is small.

No Threatened or Near Threatened plant- or animal species appear to be resident at the site. No other plant- or animal species of particular conservation concern appear to be present at the site.

Protected tree species *Sclerocarya birrea* (Marula Tree) and *Combretum imberbe* (Leadwood) that occur very sparingly (only one individual of each was observed) at the site. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any

other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided.

There is little scope for the site to be part of a corridor of particular conservation importance.

Possible ecological sensitivities at the site were indicated by a report generated from the screening tool of DFFE. An assessment of these ecological sensitivities at the site, follow.

Animal species theme sensitivity

Relative animal species theme sensitivity is medium. The animal species that are flagged (with a medium sensitivity indication) by the DFFE screening tool are the mammal species *Crocidura maquassiensis* and *Dasymys robertsii* as well as the reptile species *Kinixys lobatsiana*. There appears to be no ideal habitat for the *Crocidura maquassiensis*, a mammal species which often prefers rocky habitats, at the site. The mammal species *Dasymys robertsii* is patchily distributed in the lowveld of northern South Africa and Zimbabwe. In South Africa *Dasymys robertsii* occurs predominantly in the Limpopo, Mpumalanga and Gauteng Provinces (Mullin *et. al.*, 2005). Power (2014) recorded the *D. robertsii* in the North West Province at a tributary of the Waterkloofspruit at Kgaswane. No signs of the listed mammal species have been found at the site and also no ideal habitats for these species. The Lobatse hinged-back tortoise, *Kinixys lobatsiana*. is found in southeastern Botswana and in South Africa from the north-eastern parts of the North West Province, through northern Gauteng, northwestern parts of Mpumalanga and into the Limpopo Province south of the Soutpansberg (Bates *et. al.*, 2014). *Kinixys lobatsiana* is present in savanna habitats, though absent from the subtropical lowveld, and is also absent from the highveld grassland (Bates *et. al.*, 2014). Vegetation at its habitats ranges from dens, short bushveld to open tree savanna. The tortoise species prefers rocky hillsides and rocky ridges (Boycott & Bourquin, 2000). The Lobatse hinged-back tortoise have not been recorded at the site and this site which is partly isolated and disturbed as well, does not appear to contain ideal habitat for this tortoise species. Following the inspection of the site, there is no distinct indication that the animal species listed above occur or should occur at the specific site.

Plant species theme sensitivity

Relative plant species theme sensitivity is low. Plant species that are included in the list of sensitive species, which are not threatened but prone to illegal harvesting in the North West Province, are listed in Table 4.8 and Table 4.9. None of these plant species prone to illegal harvesting which are found at the site. The occurrence of any Threatened plant species or any other plant species of particular conservation concern at the site, is highly unlikely. Therefore, the listing of the plant species theme sensitivity as low at the site, is upheld. Protected tree species *Sclerocarya birrea* (Marula Tree) and *Combretum imberbe* (Leadwood) occur very sparingly (one individual of each have been noted) at the site. These protected tree species are not threatened species. Protected Tree species are listed under the National Forests Act No. 84 of 1998. In terms of a part of section 15(1) of Act No. 84 of 1998, no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell, donate or in any other manner acquire or dispose of any protected tree, except under a license granted by the Minister. A permit will be needed to if any damage or removal of the individual Protected trees, at the site, cannot be avoided.

Terrestrial biodiversity theme sensitivity

Terrestrial biodiversity theme sensitivity at the site is listed as very high. This high sensitivity that is ascribed to the site, is because of the presence of Critical Biodiversity Area 2, which in turn is based on a Vulnerable ecosystem, the Marikana Thornveld (SVcb 6), mapped for the site, as well as the site being part of a Protected Areas Expansion Strategy. During surveys at the site, it was found that the original vegetation type is extensively and highly modified, at a large part of the site and that the scope for the remaining, partly isolated patch of more natural vegetation at the site to contribute significantly to the conservation of Marikana Thornveld, is small. There is also no significant indication that the site is in particular viable and important for a Protected Area Expansion strategy. Because the site is also part of a sub-quaternary catchment of a strategic water source area, the aquatic theme also contributes to the perceived high terrestrial sensitivity. Such as addressed under the aquatic theme sensitivity, a distinct and significant impact of the development to the sub-quaternary catchment is not anticipated.

Ecological sensitivity at the site is medium and low (Figure 2). The low sensitivity at the site is indicated for the area where buildings and old associated garden areas are present. There are no Threatened or Near Threatened animal-

or plant species at the site. The vegetation has been modified and disturbed at large parts, the site is partly isolated and also there are no wetlands or rocky ridges at the site.

Following the mitigations which will be upheld and planned for the proposed footprint, all the impact risks listed above are moderate or low.

11.2 HERITAGE IMPACT ASSESSMENT (HIA) (See Appendix B for a copy of this report)

11.3.1 Terms of Reference for Heritage Impact Assessment

The Terms of Reference for the study was to:

1. Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located on the portion of land that will be impacted upon by the proposed development;
2. Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
3. Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions;
4. Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
5. Review applicable legislative requirements;
6. Provide Motivation for Exemption from a Full Phase 1 HIA;

APelser Archaeological Consulting cc (APAC cc) was appointed by AB Enviro Consult, on behalf of Tharisa Minerals Proprietary Limited, to provide a motivation for Exemption from a Full Phase 1 HIA for the proposed establishment of a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province. In order to establish the proposed development, 2.2489ha of indigenous vegetation will have to be cleared. A number of structures (recent farming-related) are situated on the land parcel as well and will have to be demolished to make way for the new Clinic. If these structures are determined to be older than 60 years of age, then motivation for Exemption from Full Demolition Permit Application had to be provided as well

Legislative requirements of National Heritage Resources Act (NHRA), Act 25 of 1999

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. *Grave yards and graves older than 60 years*
- h. Meteorites and fossils

- i. Objects, structures and sites of scientific or technological value.

The National Estate includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Sites of Archaeological and palaeontological importance
- g. *Graves and burial grounds*
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, palaeontological, meteorites, geological specimens, military, ethnographic, books etc.)

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon. An Archaeological Impact Assessment (AIA) only looks at archaeological resources. An HIA must be done under the following circumstances:

- a. The construction of a linear development (road, wall, power line, canal etc.) exceeding 300m in length
- b. The construction of a bridge or similar structure exceeding 50m in length
- c. *Any development or other activity that will change the character of a site and exceed 5 000m² or involve three or more existing erven or subdivisions thereof*
- d. Re-zoning of a site exceeding 10 000 m²
- e. Any other category provided for in the regulations of SAHRA or a provincial heritage authority

11.3.2 Methodology

“In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a Heritage Impact Assessment is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The quickest process to follow for the archaeological component is to contract an accredited specialist (see the web site of the Association of Southern African Professional Archaeologists www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place. The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources - or at least a letter of exemption from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary, a Phase 2 rescue operation might be necessary. Please note that a nationwide fossil sensitivity map is available on SAHRIS to assist applicants with determining the fossil sensitivity of a study area.

If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for exemption from having to undertake further heritage assessments. Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.”

Last mentioned option was decided on for this project which entailed desktop research as part of the assessment. Previous work by the author of this Exemption Letter also serves as reference.

11.3.3 Recommendations and Conclusions

To conclude, based on the aerial images of the area, and the heritage desktop study, it is therefore deemed unlikely that any significant sites, features or material of cultural heritage (archaeological and/or historical) origin and/or significance will exist in the study area & proposed development area. Recent historical activities (mainly farming-related activities) would have impacted on any if they did exist here in the past and would have disturbed or destroyed these to a large degree. Known archaeological and historical sites, features and material have been identified in the larger geographical area and this needs to be taken into consideration during actions related to the proposed development.

It is therefore recommended that Exemption from a Full Phase 1 Heritage Impact Assessment (HIA) for the Proposed Development of the Tharisa Clinic, on Portion 64 (a Portion of Portion 1) of the farm Buffelspoort 343JQ, between Mooinooi and Marikana in the Northwest Province, be granted to the applicants taking into consideration the following:

The subterranean nature of cultural heritage (archaeological and/or historical) resources must always be kept in mind. Should any previously unknown or invisible sites, features or material be uncovered during any development actions then an expert should be contacted to investigate and provide recommendations on the way forward. This could include previously unknown and unmarked graves and/or cemeteries.

Should there be any questions or comments on the contents of this document please contact the author as soon as possible.

12. CONCLUSIONS AND RECOMMENDATIONS

Tharisa Minerals Proprietary Limited has appointed **AB Enviro Consult CC**, an independent environmental consultancy, to undertake an Environmental Impact Assessment for the proposed clearance of 6 174 square meters of indigenous vegetation, located within a Terrestrial CBA 2 and an Aquatic CBA 1, in order to establish a Clinic, located on Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province.

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the number of employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently it is too small and does not comply with all Health and Safety Standards. The site is well located and there would be no adverse impacts that can't be readily mitigated.

12.1 ENVIRONMENTAL IMPACT STATEMENT

The detailed environmental assessment for the proposed development, has not found any environmental impacts that *cannot* be mitigated to acceptable and manageable levels.

Tharisa Mine used to make use of the Medical Services of a Dr Chibi, a Practical Practitioner, located in Mooinooi. Risk assessments has proven that transporting employees to and from Tharisa Mine to the clinic in Mooinooi poses a huge risk. During 2020/2021, the Mine decided to establish their own Medical Centre and then appointed Platinum Health as their service provider. Containers and park homes was used to establish a temporary medical centre / facility on the existing mine grounds while the Vulcan Plant was still under construction. As the number of employees and Tharisa Mine is growing, there is a need for a more permanent facility as currently it is too small and does not comply with all Health and Safety Standards. As the temporary Medical Clinic is located in close proximity to the now operational Vulcan Plant, its location is not ideal. A process to identify a new location was then performed. Criteria for the proposed new site included the following:

- The site must be located in a quieter area.
- The site must be big enough, located in close proximity to the mine, be on level ground and must have easy access.

The mine has since bought more Properties south of the N4 and these sites were identified as potential locations for the Medical Centre. Two alternative sites were considered.

- Option 1 – Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province
- Option 2 – Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – Opposite Tharisa Quarantine / Conference facility)

The following was found:

Option 1 - Portion 64 (Portion of Portion 1) of the farm Buffelspoort No. 343-J.Q., North West Province The property is large enough to accommodate the required medical services and parking area. The property is situated in close proximity to the existing Tharisa Minerals Conference Centre. Water and electricity is available on the concerned property, as well as an existing fence to secure all assets. The intention is to provide “One” facility to accommodate all the employees and contractors of Tharisa Minerals, including medical fitness certification.

Option 2 - Portion 66 of the farm Buffelspoort No. 343-J.Q., North West Province – This Property is located opposite the Tharisa Quarantine / Conference facility – this facility was deemed to not be suitable as it is located on a steep slope with rocky outcrops.

The proposed development will strengthen the health sector within the Rustenburg Local Municipality, due to the provision of a new clinic within the Rustenburg Local Municipality. By strengthening the existing health and business sector within the Rustenburg Local Municipality, the development will stimulate economic growth, improve competitiveness and will contribute to the broadening of the income base of the Rustenburg Local Municipality.

The proposed development will give rise to the creation of job opportunities in the construction sector, as well as during the operational phase of the clinic, resulting in the lowering of the poverty level within the area of jurisdiction of the Rustenburg Local Municipality

Consistent with national priorities, environmental authorities must support *“increased economic growth and promote social inclusion”*, whilst ensuring that such growth is *“ecologically sustainable”*. In the National Spatial Development Perspective (NSDP) it is highlighted that, to achieve the goal of stimulating sustainable economic activities and to create long-term employment opportunities, it is required that spending on economic infrastructure is focused in priority areas with potential for economic development, with development to serve the broader societies' needs equitably

Specialist studies were conducted and a full Public Participation Process is being followed. This information was used to generate a sensitivity map that was used to assess the sustainability of the design and layout plan for the proposed development.

The **Heritage Impact Assessment** revealed that it is evident that there is a low likelihood (besides the water furrow remains) of any significant cultural heritage (archaeological and/or historical) sites or features being present in the area. If any did exist here in the past it would have been extensively disturbed or destroyed as a result of recent developments.

The **Fauna and Flora Habitat** study conducted also revealed that the site consists of a large part that has been developed in the past and a remaining ecologically disturbed terrestrial zone as well as an ecologically disturbed riparian zone. Large parts of the site have buildings, associated roads, associated gardens and conspicuous cover of exotic plant species.

A full Public Participation Process is being conducted and any objections or comments that will be received in relation to the proposed development will be incorporated into the Final BAR.

12.2 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

EMPR's aim to identify and minimise the potential impacts that the proposed construction and operational phases of the project may have on the receiving environment. An EMPR has been developed which is contained in Appendix D and includes detailed mitigatory measures for the construction phase.

As a general guideline, the EMPR should be based on a comprehensive set of environmental aspects (elements of the facility that can interact with the environment), and hence, the EMPR compiled for this application includes the following key components:

- Mechanisms for the on-going identification and assessment of environmental aspects and impacts;
- Environmental management programmes; objectives and targets;
- Environmental monitoring and reporting framework;
- Environmental management procedures; and,
- Mechanisms for the recording of environmental incidents and implementing corrective and preventative actions.

12.3 EAP OPINION

The information contained in this BAR and Specialist Studies, provides a detailed and comprehensive description of the proposed project, baseline environment and potential environmental impacts associated with the proposed development. As no significant impacts that cannot be mitigated were identified, AB Enviro Consult is of the opinion that the project should proceed, provided that the necessary mitigation and management measures are implemented.

Under South African environmental legislation, the Applicant is accountable for the potential impacts of the activities that are undertaken and is responsible for managing these impacts. The Applicant therefore has overall and total environmental responsibility to ensure that the implementation of the construction phase of the EMPR complies with the relevant legislation and the conditions of the environmental authorisation. The applicant will thus be responsible for the implementation of the EMPR.

The environmental management programme (EMPR) should form part of the contract between the construction company and the applicant. This will help ensure that the EMPR is adhered to. It is suggested that a suitably qualified Environmental Control Officer (ECO) be appointed for the construction phase.

12.4 CONDITIONS RECOMMENDED TO BE INCLUDED IN ANY AUTHORISATION THAT MAY BE GRANTED BY THE COMPETENT AUTHORITY IN RESPECT OF THE APPLICATION

The following recommendations has been identified for the pre-construction and construction phases of the proposed development

1. A full copy of the signed EA from DEDECT in terms of NEMA, granting approval for the development must be available on site
2. A copy of the EMPr as well as any amendments thereof must be available on site
3. A suitably qualified ECO must be appointed.
4. Impacts on the environment must be minimised during site establishment and the development footprint must be kept to the approved development area.
5. Vegetation clearing may not commence until such time as the development footprint has been clearly defined.
6. No clearance of vegetation outside of the development footprint may occur.
7. At the end of the construction phase the site and its surrounding area must be free from any pollution that originated as a result of the construction activities.
8. No disturbance of topsoil & subsoil may commence until such time as the development footprint has been clearly defined.
9. No disturbance of topsoil & subsoil outside of the development footprint may occur.
10. At the end of the construction phase the site and its surrounding area must be free from any chemical, fuel, oil and cement spills that originated as a result of the construction activities.
11. At the end of the construction phase the site and its surrounding area must be free from any sewage that originated as a result of the construction activities.
12. At the end of the construction phase the site and its surrounding area must be free from any hazardous or general waste pollution that originated as a result of the construction activities.
13. Dust prevention measures must be applied to minimise the generation of dust.
14. Noise prevention measures must be applied to minimise the generation of unnecessary noise pollution as a result of construction activities on site.
15. Absolutely no burning of waste is permitted.
16. Fires will only be allowed in facilities especially constructed for this purpose.
17. No hunting of animals will be allowed.
18. No intentional destruction of any sites, features or material of cultural heritage (archaeological and/or historical) origin or significance may occur.
19. All Contractors and sub-contractors must abide to the rules and regulations of the Occupational Health and Safety Act, 85 of 1993.

13. AFFIRMATION BY EAP

Mr. Jean Pierre De Villiers

declare under oath that I:

- a. act as the independent environmental practitioner in this application ;
- b. do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed;
- c. do not have and will not have a vested interest in the proposed activity proceeding;
- d. have no, and will not engage in, conflicting interests in the undertaking of the activity;
- e. undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required;
- f. 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;
- g. 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;
- h. 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.

Signature of the Environmental Assessment Practitioner:

Name of company: AB Enviro Consult CC

Date:

Signature of the Commissioner of Oaths:

Date

Designation

Official stamp:

14. LIST OF REFERENCES

- Department of Environmental Affairs and Tourism. 1992.** Integrated Environmental Management. Pretoria, DEAT.
- Department of Environmental Affairs and Tourism. 1998.** *Guideline Document - EIA Regulations*. Pretoria, DEAT.
- Department of Environmental Affairs. 1988.** *Climate of South Africa, climate statistics up to 1984*. Weather Bureau (WB40). Pretoria, Government Printer.
- Department of Transport, 19--.** *Climate of South Africa Part 1 Climate statistics*. Weather Bureau (WB20). Pretoria Government Printer.
- S. Cliff. 2015.** Environmental Scoping report for the proposed high density residential township "Tanganani extension 7", to be located on a part of Portion 119 of the farm Diepsloot 388 JR, City of Johannesburg Municipality, Gauteng

**APPENDIX A:
ECOLOGICAL SPECIALIST REPORT**

**APPENDIX B:
SAHRA SPECIALIST REPORT**

**APPENDIX C:
ENVIRONMENTAL MAANGEMENT PROGRAMME**

**APPENDIX D:
SPECIALIST DECLARATION OF INTEREST (TO FOLLOW)**

