



**DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED ESTABLISHMENT OF A CEMETERY
ON THE REMAINDER OF PORTION 19 OF THE FARM EENSGEVONDEIN 373 IS IN THUTHUKANI,
LEKWA LOCAL MUNICIPALITY IN MPUMALANGA PROVINCE.**

REF NO:

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DEFINITIONS

Alternatives

Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site, activity, process or technology, or the no-go alternative.

Contaminated

Means the presence in or under any land, site, buildings or structures of a substance or micro-organism above the concentration that is normally present in or under that land, which substance or micro-organism directly or indirectly affects or may affect the quality of soil or the environment adversely.

Cumulative Impacts

Impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of the other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.

Direct impacts

Impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity (e.g. noise generated by blasting operations on the site of activity). These impacts are usually associated with the construction, operational or maintenance of an activity and are generally obvious and quantifiable.

Environment

The surroundings within which humans exist and that are made up of the land, water and atmosphere of the earth; micro-organisms, plant and animal life; any part or combination of (i) and (ii) and the interrelationships among and between them; and, the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.

Environmental Aspects

Elements of an organization's activities, products or services that can interact with the environment.

Environmental Degradation

Refers to pollution, disturbance, resource depletion, loss of biodiversity, and other kinds of environmental damage; usually refers to damage occurring accidentally or intentionally as a result of human activities.

Environmental Impacts

Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services.

Environmental Impact Assessment

A systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes basic assessment and Scoping and EIR (NEMA EIA Regulations).

Environmental Impact Report



A report assessing the potential significant impacts as identified during the environmental impact assessment.

Environmental Management Plans

This document that provides appropriate mitigation measures designed to minimize or eliminate the significant adverse impacts that may be caused as a result of the proposed project.

Interested and affected parties (I&APs)

Individual, communities or groups, other than the proponent or the authorities, whose interests may be positively or negatively affected by proposal or activity and/or who are concerned with a proposal or activity and its consequences. These may include local communities, investors, business association, trade unions, customers, consumers and environmental interest group. The principle that environmental consultants and stakeholder engagement practitioners should be independent and unbiased excludes these groups from being considered stakeholders (DEA, 1998).

Land use

The various ways in which land may be employed or occupied. Planners compile, classify, study and analyse land use data for many purposes, including the identification of trends, the forecasting of space and infrastructure requirements, the provision of adequate land area for necessary types of land use, and the development or revision of comprehensive plans and land use regulations.

Mitigate

The implementation of practical measures to reduce adverse impact (DEA).

Monitoring

Means the continuous or non-continuous measurement of a concentration, or other parameters for purpose of assessment or control of environmental quality or exposure, and the interpretation of such measurements.

Pollution

Means any change in the environment caused by—

- (i) substances;
- (ii) radioactive or other waves; or
- (iii) noise, odours, dust or heat,

emitted from any activity, including the storage or treatment of waste or substances, construction and the provision of services, whether engaged in by any person or an organ of state, where that change has an adverse effect on human health or well-being or on the composition, resilience and productivity of natural or managed ecosystems, or on materials useful to people, or will have such an effect in the future;

Pollution Prevention

Any activity that reduces or eliminates pollutants prior to recycling, treatment, control or disposal.

Public Participation Process

A process of involving the public in order to identify needs, address concerns, in order to contribute to more informed decision making relating to a proposed project, programme or development.

Remediation



Means the interim or permanent elimination through mitigation or abatement of toxic or biohazard contaminants that pose human health consequences or threats to the environment.

Topography

Topography, a term in geography, refers to the "lay of the land" or the physio-geographic characteristics of land in terms of elevation, slope and orientation.

Toxicity

Refers to the inherent property of a substance to cause injury or an adverse effect in a living organism.

Vegetation

All of the plants growing in and characterizing a specific area or region; the combination of different plant communities found there.

Waste

Any substance, whether that substance can be reduced, re-used, recycled and recovered—

- (a) that is surplus, unwanted, rejected, discarded, abandoned or disposed of;
- (b) which the generator has no further use of for the purposes of production;
- (c) that must be treated or disposed of; or
- (d) that is identified as a waste by the Minister by notice in the Gazette, and includes waste generated by the mining, medical or other sector, but—
 - (i) a by-product is not considered waste; and
 - (ii) any portion of waste, once re-used, recycled and recovered, ceases to be waste;

Township

A new area being developed for residential or industrial use



ABBREVIATIONS

BAR	– Basic Assessment Report
BID	– Background Information Document
CBD	– Central Business District
CA	– Competent Authority
CEMP	–Construction Environmental Management Plan
CLO	– Community Liaison Officer
DEA	– Department of Environmental Affairs
DoH	– Department of Health
DWS	– Department of Water and Sanitation
EAP	– Environmental Assessment Practitioner
ECO	– Environmental Control Officer
EIA	– Environmental Impact Assessment
EIS	– Ecological Importance and Sensitivity
EMP	– Environmental Management Programme
EMPr	– Environmental Management Programme report
GN	– Government Notice
Ha	– Hectares
I&AP	– Interested and Affected Party
KM	– Kilometres
MAP	– Mean Annual Precipitation
MM	– Millimetres
NEMA	– National Environmental Management Act, Act 107 of 1998 as amended
NEMAQA	– National Environmental Air Quality Act
NEMWA	– National Environmental Management Waste Act
NWA	– National Water Act
PM	– Project Manager
PPP	– Public Participation Process
R	– Regulation
SASS	– South African Scoring System
DARDLEA	– Department of Agriculture Rural Development, Land and Environmental Affairs



PURPOSE OF THE BASIC ASSESSMENT REPORT (BAR)

This Basic Assessment Report (BAR) forms part of a series of reports and information sources that are being provided during the BAR Process of the proposed establishment of a cemetery in Thuthukani.

The purpose of this BAR is to:

Present the proposed industrial township establishment project and the need for the project;

- Describe the affected environment at an enough level of detail to facilitate informed decision-making;
- Provide an overview of the Basic Assessment Process being followed, including public consultation;
- Assess the predicted positive and negative impacts of the project on the environment;
- Provide recommendations to avoid or mitigate negative impacts and to enhance the positive benefits of the project;
- Provide an Environmental Management Programme (EMPr) for the proposed project. This DBAR is being made available to all Interested and Affected Parties (I&APs) and stakeholders for a 30-day review period.

All comments submitted during the review of the DBAR will be incorporated into the finalized BAR as applicable. The finalized BAR will then be submitted to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) for decision-making.



DECLARATION OF INDEPENDENCE

I **Phakwago M. Kabelo** in my capacity as an Environmental Assessment Practitioner, hereby declare that I-

- Act as an independent consultant;
- Do not have any financial interest in the undertaking of the activity, other than remuneration for the work performed in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- 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 in terms of the National Environmental Management Act, 1998 (Act 107 of 1998);
- As a registered member of the South African Council for Natural Scientific Professions, will undertake our profession in accordance with the Code of Conduct of the Council, as well as any other societies to which we are members; and
- Based on information provided to us by the project proponent, and in addition to information obtained during this study, have presented the results and conclusion within the associated document to the best of our professional judgement.

Signature _____ Date _____



EXECUTIVE SUMMARY

This draft basic assessment report concentrates on the proposed establishment of a cemetery which will occupy an approximately 1.5 hectares on the remainder of portion 19 of Eensgevondein 373 IS in Thuthukani under the jurisdiction of Lekwa Local Municipality in the Mpumalanga Province.

The proposed development is listed in terms of Government Notice R324 and R327 the National Environmental Management Act, (Act 107 of 1998) and therefore requires an Environmental Impact Assessment (EIA) to be undertaken. The aim of the EIA is to ultimately ensure that environmental impacts are taken into consideration, to ensure stakeholder engagement, and to provide decision makers with sufficient information to make an informed decision on the proposed development.

This document outlines the basic assessment process followed, describes the proposed development and the context in which it will take place, and identifies the potential environmental impacts.

A Public Participation Process runs concurrently with the Basic Assessment Phase. The purpose of this process is to identify all Interested and Affected Parties (I&AP"s), and to allow such parties the opportunity to provide input and comment regarding the EIA process, including issues and alternatives that are to be investigated. The Basic Assessment Report is made available for the public to comment. The Public Participation Process therefore facilitates informed decision-making. The BA Report (this document) represents the identification of key issues as highlighted by the relevant authorities, Interested and/or Affected Parties (I&AP) and professional judgement of the Environmental Assessment Practitioner. The Basic Assessment Process allows for the identification of the anticipated impacts, particularly those, which require specialist investigations in order to inform decision making in terms of environmental sustainability of the site and natural resource management. The results of all the specialist studies, a full assessment of the impacts and proposed alternative



1 INTRODUCTION

Mang Geoviro Services was appointed Lekwa Local Municipality to submit an application for Environmental Authorisation for the proposed establishment of a cemetery on the remainder of Portion 19 of Eensgevondein 373-IS under the jurisdiction of Gert Sibande District Municipality in Mpumalanga Province.

The proposed development entails an establishment of a cemetery and associated structures on an area of approximately 1.5 hectares. These includes the following:

- A security walls enclosing the cemetery
- Ablution facilities
- Parking area

The proposed activity requires an Environmental Impact Assessment (EIA) to be undertaken in compliance with the regulatory requirements of the National Environmental Management Act (Act 107 of 1998) (NEMA) and the Environmental Impact Assessment (EIA) Regulations, 2014, GNR.982, GNR.983 and GNR.984. The EIA process undertaken for this proposed development is Basic Assessment Process as the listed activity associated with the proposed development is under Listing Notice 1.

The Public Participation Process (PPP) as to date included: conducting a public meeting with the affected community, placing of Notices on site and an advertisement on the local newspaper (Ridge Times), distribution of Background Information Documents (BIDs) to the relevant Government Stakeholders and other Interested and Affected Parties (I&APS).

2 APPROACH TO THE EIA STUDIES – TERMS OF REFERENCE

This section provides a brief description of the EIA process, based on the National Environmental Management Act (107 of 1998) and other relevant amendments, which are to be undertaken.

2.1 Legal Framework for EIA

The EIA process, applicable to this application, is determined by the Amendments to the Environmental Impact Assessment Regulations, 2014, published in Government Notice R326 in Government Gazette No 40772 of 7 April 2017 promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The EIA regulations inter alia describe the procedure for EIA and provides a description of activities that would require authorisation through either 1) a Basic Assessment (in terms of Government Notices R327 and R324 of 2017) or 2) Scoping and Environmental Impact Assessment (in terms of Government Notice R325 of 2017).



The following activities are triggered by the proposed development:

Table 1: Listed activity triggered by the proposed development

Number and date of the relevant notice	Listed Activities	Description of the activity
Listing Notice 1 (GN R327)	Activity 23	The proposed development entails the establishment of cemeteries on an extent area of 1.5 hectares.

The proposed development triggers activities that require a Basic Assessment; an application is submitted in terms of Chapter 4 of the EIA Regulations to the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA).

2.2 The Basic Assessment Process

The required Basic Assessment (BA) process which is being conducted in 3 phases namely:

- Phase 1: Project inception;
- Phase 2: Basic Assessment and Environmental Management Programme; and
- Phase 3: Authority review and response.

The report provides a description of the activity, description of property and location and a description of environment, legislation, need and desirability, significant impacts and management as well as mitigation.

2.3 Public Participation Process

The Public Participation Process (PPP) allows all I&AP's to voice their concerns and issues regarding the project.

The manner of undertaking the PPP is varied and is dependent on the nature of the project but require the following:

- The proposed development to be advertised in a local newspaper;
- Notices to be placed visibly on site;
- The adjacent landowners, tenants and resident's associations to be informed directly, in writing, of the application for environmental authorisation for the proposed development;
- Interested & affected parties and Stakeholders to be given a 30-day period within which to lodge any objections;
- After the 30-day period has expired a report is to be written on how any objections and/or comments raised by interested and affected parties together with an indication as to how the objections will be addressed, if at all.

2.4 Role of Interested and Affected Parties (IAPs)

Registered I&AP's have the right to bring to the attention of the Environmental Authority any issues that they believe may be of significance to the consideration of the application.

The rights of the I& AP's are qualified by certain obligations, namely:



- I&AP's must ensure that their comments are submitted within the timeframes that have been approved or set by the competent authority, or within any extension of a timeframe agreed to by the applicant or Environmental Assessment Practitioner (EAP);
- A copy of comments submitted directly to the competent authority must be served on the applicant or EAP; and
- Any direct business, financial, personal or other interest that they might have in the approval or refusal of the application must be disclosed.

The role of I&APs in a Public Participation Process usually include one or more of the following:

- Assist in the identification and prioritization of issues that need to be investigated;
- Make suggestions on alternatives and means of preventing, minimizing and managing negative impacts and enhancing project benefits;
- Assist in/ or comment on the development of mutually acceptable criteria for the evaluation of decision options;
- Contribute information on public needs, values and expectations;
- Contribute local and traditional knowledge; and
- Verify that their issues have been considered.

2.5 Specialist studies

Specialist studies provide an examination of key issues and environmental impacts. Specialists gather relevant data to identify and assess environmental impacts that might occur on the specific component of the environment that they are studying (e.g. vegetation, water quality, and pollution).

2.6 Assessment of the significance of impacts

It is necessary to determine the significance, or seriousness, of any impacts on the natural or social environment. The report will adopt a significance rating scale that determines the special, temporal, severity and certainty of any impact occurring which will allow the determination of the overall significance of an impact or benefit.

The overall intent of undertaking a significance assessment is to provide the relevant authority with information on the potential environmental impacts and benefits, thus allowing them to make a balanced and fair decision.

2.7 Mitigation measures and recommendations

Critical to an environmental assessment is the provision of practical and reasonable mitigation measures and recommendations that establish the actions that are needed in order to avoid or minimise any negative impacts from the development.

2.8 Environmental management programme

An Environmental Management and action programme will be based on the findings and recommendations set out in the BAR. The Environmental Management Programme (EMPr) consists of a set of practical and actionable



mitigation, monitoring and institutional measures to be taken into account during construction and operation of a development. The aim is to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. These plans will include:

- The standards and guidelines that must be achieved in terms of environmental legislation,
- Mitigation measures and environmental specifications which must be implemented at 'ground level' (i.e. during construction and operation),
- Provide guidance through method statements to achieve the environmental specifications,
- Define corrective action that must be taken in the event of non-compliance with the specifications of the EMPr,
- Prevent long-term or permanent environmental degradation.

2.9 Environmental Authorization and Appeal Process

Upon through of the BAR, the authority will issue an Environmental Authorisation or reject the application. Should authorisation be granted, it usually carries Conditions of Approval.

The proponent is obliged to adhere to these conditions.

I&AP's will be notified of the decision in terms of the NEMA Regulations and should an I&AP wish to appeal any aspect of the decision, they must within twenty (20) days of the date of notification of the decision, submit their appeal including supporting documents to the appeal administrator.

3 DETAILS OF THE EAP

In terms of the NEMA (as amended), an EAP is defined as "...the individual responsible for the planning, management and coordination of environmental impact assessments, strategic environmental assessments, environmental management plans or any other appropriate environmental management instruments introduced through regulations." The EAP must be independent, objective and have expertise in conducting environmental impact assessments. Such expertise should include knowledge of all relevant legislation and of any guidelines that have relevance to the proposed activity.

In order to be independent an EAP or person compiling a specialist report or undertaking a specialised process is to perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant. All material information in the possession of the EAP or person compiling a specialist report /undertaking a specialised process that reasonably has or may have the potential of influencing any decision to be taken with respect to the application by the competent authority in terms of these regulations are to be disclosed to the applicant and competent authority. Furthermore, the objectivity of any report, plan or document to be prepared by the EAP or person compiling a specialist report or undertaking a specialised process,



in terms of these regulations for submission to the competent authority should furthermore also be disclosed to the applicant and competent authority.

In order to comply with this requirement, an information sheet was provided that contains information on the author of this report being Phakwago M. Kabelo, An Environmental Assessment Practitioner from Mang Geoenviro Services (Pty) Ltd.

Environmental Assessment Practitioner (EAP)	Phakwago M. Kabelo
Consulting Company	Mang Geoenviro Services
Qualification of the EAP	National Diploma in Environmental Sciences
Expertise of the EAP	Phakwago Kabelo is a registered SACNASP member (134805) with more than 2 years of experience in the environmental sector which includes Environmental Impact Assessments, Environmental Management Plans, Public Participation Processes and Environmental Compliance Auditing.

4 ASSUMPTIONS AND GAPS IN KNOWLEDGE

All information provided by Lekwa Local Municipality to the EAP was correct and valid at the time it was provided.

- The EAP does not accept any responsibility in the event that additional information comes to light at a later stage of the process.
- All data from unpublished research is valid and accurate.
- The scope of this investigation is limited to assessing the potential environmental impacts associated with industrial establishments.

5 APPLICABLE LEGISLATION, POLICIES AND/ OR GUIDELINES

In order to protect the environment and ensure that the proposed activity operate in an environmentally responsible manner, there are a number of significant pieces of environmental legislation and guidelines that need to be taken into account during this study. These include:

LEGISLATION	SECTIONS	RELATES TO
The Constitution (No 108 of 1996)	Chapter 2	Bill of rights
	Chapter 24	Environmental Rights



National Environmental Management Act (No 107 of 1998, as amended)	Section 2	Defines the strategic environmental management goals and objectives of the government. Applies through-out the republic and to the actions of all organs of state that may significantly affect the environment.
	Section 24	Provides for the prohibition, restriction and control of activities which are likely to have a detrimental effect on the environment.
	Section 28	The developer has a general duty to care for the environment and to institute such measures as may be needed to demonstrate such care.
National Environmental Management: Waste Act (No 59 of 2008)		Provides for specific waste management measures and the remediation of contaminated land.
Environmental Conservation Act (No 73 of 1989) and regulations.	Section 19 and 19A	Prevention of littering by employees and sub-contractors during construction and the maintenance phases of the proposed housing project.
National Heritage Resources Act (No 25 of 1999) and regulations	Section 34	No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority.
	Section 35	No person may, without a permit issued by the responsible heritage resources authority destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site.
	Section 36	No person may, without a permit issued by the South African Heritage Resource Agency (SAHRA) or a provincial heritage resources authority destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority. "Grave" is widely defined in the Act to include the contents, headstone or other marker of such a place, and any other structure on or associated with such place.
	Section 38	This section provides for Heritage Impact Assessments (HIAs), which are not already covered under the ECA.



		Where they are covered under the ECA the provincial heritage resources authorities must be notified of a proposed project and must be consulted during the HIA process. The Heritage Impact Assessment (HIA) will be approved by the authorizing body of the provincial directorate of environmental affairs, which is required to take the provincial heritage resources authorities' comments into account prior to making a decision on the HIA.
Occupational Health and safety Act (No 85 of 1993)	Section 8	General duties of employers to their employees
	Section 9	General duties of employers and self-employed persons to persons other than their employees
National Water Act (No 36 of 1998) and regulations	Section 19	Prevention and remedying the effects of pollution
	Section 20	Control of emergency incidents
Hazardous Substances Act (No 15 of 1973) and regulations		Provides for the definition, classification, use, operation, modification, disposal or dumping of hazardous substances
National Road Traffic Act (No 93 of 1996)		Road Safety
SANS 10103 (Noise Regulations)		The measurement and rating of environmental noise with respect to annoyance and to speech communication.

6 PROJECT TITLE

The proposed establishment of a cemetery on the remainder of portion 19 of Eensgevondein 373 IS in Thuthukani, Lekwa Local Municipality in Mpumalanga Province.

7 PROJECT DESCRIPTION

The proposed development is located within Thuthukani and falls within the Lekwa Local Municipality under the Jurisdiction of Gert Sibande District Municipality. The proposed cemetery will cover an area of approximately 1.5 hectares. The proposed development site is currently vacant and from the environmental perspective, it is not



sensitive; therefore, it is suitable for the proposed township since it is located where it will be closely accessible to local residents.

The coordinates of the site: 26°46'54.63 S 29°17'45.25 E.

The 21-digit surveyor general code of the site: T0IS0000000037300000



Figure 1: Locality map of the proposed development site in Thuthukani

8 SERVICES

8.1 Water and Sewer Handling and Discharge

Raw water is conveyed from the Grootdraai dam and purified at Standerton Water Treatment Works. Water is conveyed from the treatment works to Thuthukani reservoirs. Purified water is pumped to 2 Thuthukani reservoirs and 1 tower, the reservoirs then supply Thuthukani township and the industrial section.

The cemetery is proposed to utilise piped sewer networks. The network can gravitate to the existing Thuthukani wastewater treatment works. It is proposed that the sewerline from the cemetery be connected to the nearest sewer manhole.

8.2 Access and Roads

The proposed development can be accessed by using the existing access road to the township. The road from the Interchange to the new development will need to be upgraded from gravel to asphalt and widened to accommodate the new traffic.



8.3 Storm Water management

The stormwater will drain on according to the slope of the natural ground. The topography of the site promotes the stormwater run-off effectively towards the veld.

8.4 Solid Waste

A regional landfill situated nearest the site is to be used to dispose solid waste. The local municipality is responsible for connecting and disposing the solid waste. If the municipality is not able to provide this service, then a private company will need to be appointed by the development owners for the service.

A refuse area with bins will be done onsite and solid waste will be disposed of at the municipal dump site as per the municipal health bylaws.

9 PROJECT ALTERNATIVES

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

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed.

9.1 Location alternative

There is no alternative site for the proposed development, as the project area is located within the problem area and if the project is changed to another area, the problem will remain the same or unsolved.

9.2 Type of activity alternative

Activity alternatives were also considered which involves the establishment of a cemetery; however, the property is more suitable for cemeteries in order to accommodate the Thuthukani residents.

9.3 No-go alternative

The no-go alternative would be not to go ahead with the establishment of a cemetery, while there is high demand for a new cemetery due to population growth in the area of Thuthukani in Mpumalanga. The only way to counter act this problem is to go ahead with the project. The no-go alternative will only be considered as an alternative in the case that significantly negative impacts are identified which is of a magnitude that cannot be adequately reduced.



10 NEED AND DESIRABILITY

According to the Department of Environmental Affairs and Tourism Guidelines (DEAT, 2006), the need and desirability of the project is used in order to ensure that the choice of all alternatives is appropriate. The Lekwa Local Municipality “applicant” wants to establish a cemetery due to the steady increase of population growth within the Thuthukani town to accommodate local residents with a place to bury their loved one. The development will benefit the local community in a way that the local contractors and professionals will be exposed to the professional elements of the development and practices that will enable them to develop and set their practices or operations. It has been suggested as facts that during the construction and the operational phase of the proposed development will play a role in job creation as well as forming as part of poverty alleviation within and surrounding local communities by making sure that the local residents or individuals are employed.

11 A DESCRIPTION OF THE ENVIRONMENTAL ASPECTS THAT MAY BE AFFECTED BY THE ACTIVITY

11.1 Climate

The climate of Thuthukani shows a maximum average temperature of 26°C from December to February and minimum temperature of 2°C on the month of June. The hot days and cold, according to the dashed red and blue lines on figure 3 shows the average of the hottest day and coldest night of each month of the last 30 years. Monthly precipitations above 150mm are mostly wet, below 30mm mostly dry.

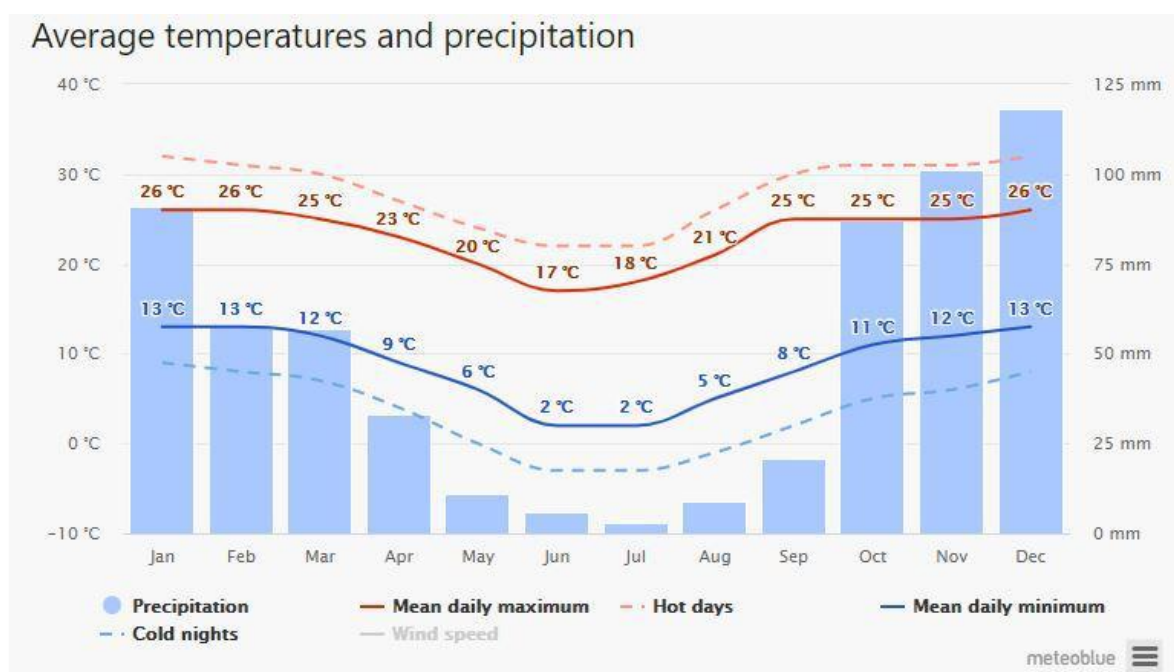


Figure 2: Climatic conditions of Thuthukani



11.2 Geology and Topography

The proposed development site is underlined by a dolerite rock from the karoo dolerite suite which is close to madzaringwe formation of the karoo supergroup. Moreover, it is an igneous intrusion that cut the sedimentary stratigraphic basin of the karoo supergroup. The lithology of this igneous intrusion is dolerite, an intrusive mafic igneous rock that normally occurs in a form of a dyke and sill.

11.3 Biodiversity

The biodiversity of the proposed site development area has been characterised as the Soweto Highveld Grassland which is located within the Grassland biome. Soweto Highveld Grassland is classified as Endangered according to Mucina & Rutherford (2006) due to large scale transformation through mining, cultivation and urban sprawl. Furthermore, Soweto Highveld Grassland is also listed as a Vulnerable ecosystem in terms of Section 52 of the National Environmental Management: Biodiversity Act. The vegetation type code is 8.

11.4 Current Land-Use

The proposed development site is currently vacant.

12 THE PUBLIC PARTICIPATION PROCESS

12.1 Background

Public participation is part of the EIA process which is governed under the principles of NEMA as well as the EIA regulations. It is defined as the process by which an organization consults with all interested or affected parties (I&APs) which include organizations, government entities, community, NGOs, etc., before deciding. It is a two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions. It provides all the stakeholders including the community with a platform to raise their concerns before the Competent Authority can make a final decision about the environmental authorization. This prevents and minimizes disputes before they become unsolvable. Chapter 6 of the EIA regulations emphasize that the information related to the proposed project must be made available to I&APs, prior to a final decision. Therefore, this process will allow I&APs to have access to the information relating to this project. The Application was conducted according to Chapter 6 of the EIA Regulations 2017.

12.2 Objectives of Public Participation

- To inform and involve the community and the stakeholders about the development happening in Thuthukani.
- To identify and address the community and stakeholder's concerns regarding this activity.



- To provide opportunities for the community, relevant government departments, surrounding businesses, the residents and other stakeholders to raise their concerns, suggest solutions and identify priorities or issues.

12.3 Notification of the Interested and Affected Parties (IAPs)

Newspaper Advertisement	The proposed project was advertised in the local newspaper (Ridge Times) to inform people about the project and request them to register their names and comment on the proposed development.
Site Notices	Notices were placed in noticeable places i.e. Fence and electricity poles within the vicinity of the site.
Background Information Document (BID)	A BID was distributed to organs of state, owners and occupiers of adjacent landowners and requested them to register as IAPs.
Draft BAR Circulation	The draft Basic Assessment was distributed to Organs of state and IAPs.
Public Meeting	No public meeting was held to discuss the project.

12.4 Comments from Interested and Affected Parties

No issues raised.

13 IMPACT ASSESSMENT AND MITIGATION MEASURES

13.1 Methodology for Environmental Impact Assessment

The impacts anticipated to occur as a result of the proposed development will be evaluated to determine their significance.

Significance will be determined for scenarios involving both „before“ and „after“ mitigation. The baseline scenario is ultimately evaluated, bearing in mind that the environmental planning exercise as well as the process of investigating alternatives has already excluded a number of significant impacts.

The following is the equation applied to determine the significance of the impact:

Significance (S) = [Irreplaceable (I) Extent (E) + Duration (D) + Magnitude (M) + Reversibility (R)] x Probability (P)

$$S = (I + E + D + M + R) \times P$$

Nature	Classification of whether the impact is positive or negative , direct or indirect
Extent	Spatial scale of impact and classified as:



	<p>Site: the impacted area is the whole site or a significant portion of the site</p> <p>Local: within a radius of 2 km of the construction site.</p> <p>Regional: the impacted area extends to the immediate, surrounding and neighboring properties.</p> <p>National: the impact can be considered to be of national significance.</p>
Duration	<p>Indicates the lifetime of the impact and is classified as:</p> <p>Short term: the impact will either disappear with mitigation will be mitigated through natural processes in a span shorter than the construction phase.</p> <p>Medium term: the impact will last for the period of the construction phase, where after it will be entirely negated.</p> <p>Long term: the impact will continue or last for the entire operational life of the development, but will be mitigated by direct human action or by natural processes thereafter. The only class of impact which will be non-transitory.</p> <p>Permanent: mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient.</p>
Intensity	<p>Describes whether an impact is destructive or benign</p> <p>Low: impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.</p> <p>Moderate: affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way.</p> <p>High: natural, cultural and social functions and processes are altered to extent that they temporarily cease.</p> <p>Very high: natural, cultural and social functions and processes are altered to extent that they permanently cease.</p>
Probability	<p>Describes the likelihood of an impact to occur:</p> <p>Improbable: likelihood of the impact materializing is very low.</p> <p>Possible: the impact may occur.</p> <p>Highly probable: most likely that the impact will occur.</p> <p>Definite: the impact will occur.</p>
Significance	<p>Based on the above criteria the significance of issues was determined. The total number of points scored for each impact indicates the level of significance of the impact, and is rated as follows:</p> <p>Low: the impacts are less important.</p> <p>Medium: the impacts are important and require attention, mitigation is required to reduce the negative impacts.</p> <p>High: the impacts are of great importance. Mitigation is therefore crucial.</p>



Cumulative	In relation to an activity, means the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
Mitigation	Where negative impacts are identified, mitigation measures (ways of reducing impacts) have been identified. An indication of the degree of success of the potential mitigation measures is given per impact.

Table 2: Impact Assessment Rating

Criteria for the rating of impacts				
Criteria	Description			
Extent	National	Regional	Local	Site
Duration	Permanent	Long-term	Medium-term	Short-term
Intensity	Very high	High	Moderate	Low
Probability	Definite	Highly probable	Possible	Improbable
Points allocation	4	3	2	1
Significance Rating of classified impacts				
Impact	Points	Description		
Low	4-6	A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction or operating procedure.		
Medium	7-9	Mitigation is possible with additional design and construction inputs.		
High	10-12	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment.		
Very high	13-16	The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/ or operational phases. The effects of the impact may affect the broader environment.		
Status	Perceived effect of the impact			
Positive (+)	Beneficial impact			
Negative (-)	Adverse impact			
Negative impacts are shown with a (-) while positive ones are indicated as (+)				



13.2 Environmental Impacts of the proposed development

Provide a summary and anticipated significance of the potential direct, indirect and cumulative impacts that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed. This impact assessment must be applied to all the identified alternatives to the activities identified in Section 9 of this report.



Potential impacts	Significance rating of impacts before mitigation measures	Proposed mitigation measures	Significance rating of impacts before mitigation measures
<p>Visual Environment</p> <ul style="list-style-type: none"> The movement of construction vehicles through the camp may be associated with a visual impact. 	Low (Negative)	<ul style="list-style-type: none"> Construction traffic must stick to designated routes 	Low (Negative)
<p>Soil</p> <ul style="list-style-type: none"> Spillage of fuel or oil leaks from construction vehicles may result in the contamination of soil and groundwater. Stormwater runoff may cause erosion of topsoil and concomitant siltation of watercourses, if not carefully controlled. 	Medium (Negative)	<p>Fuel Storage:</p> <ul style="list-style-type: none"> Topsoil and subsoil to be protected from contamination. Fuel and material storage must be away from stockpiles. Contaminated soil must be contained and disposed of offsite at a licensed landfill site. <p>Earthworks:</p> <ul style="list-style-type: none"> All earthworks must be adequately controlled and managed. Any excavations must be clearly marked and demarcated. <p>Soil Erosion:</p> <ul style="list-style-type: none"> Only topsoil in the footprint should be removed and soil disturbance to areas outside the construction footprint must be avoided. Bare areas must be revegetated as soon as possible after construction. 	Low (Negative)



<p>Noise</p> <ul style="list-style-type: none"> Noise generated during construction can result in health and nuisance impacts to neighbouring property owners. 	<p>Medium (Negative)</p>	<ul style="list-style-type: none"> SANS 10103 and the National Noise Control Regulations should be used as the main guidelines for addressing the potential noise impact on this project. With regard to unavoidable very noisy construction activities in the vicinity of noise sensitive areas, these should be screened off with acoustic screens, where possible. If no acoustic screening is used during exceptionally noisy construction times, prior warning to community members would be extremely important. As construction workers operate in a very noisy environment, it must be ensured that their working conditions comply with the requirements of the Occupational Health and Safety Act (Act No 85 of 1993). Where necessary ear protection gear should be worn. 	<p>Low (Negative)</p>
<ul style="list-style-type: none"> Accumulated contamination of soil and groundwater due to inappropriate disposal of construction waste and other construction debris Accumulation of construction debris on site 	<p>Medium (Negative)</p>	<p>Construction Rubble:</p> <ul style="list-style-type: none"> All rubble must either be used on site as part of the existing development or must be taken off the site and disposed of at an approved site. Rubble must not be dumped on the ground but must be placed within a skip bin for regular removal, insofar as possible. <p>Litter Management:</p>	<p>Low (Negative)</p>



		<ul style="list-style-type: none"> • Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the construction site. These should be kept covered and arrangements made for them to be collected regularly from the site. • A housekeeping team should be appointed to regularly maintain the litter and rubble situation on the construction site. 	
<p>Flora and Fauna</p> <ul style="list-style-type: none"> • Minor construction related impacts are anticipated, it is however not expected to impact endangered or threatened species due to the location of the site within an existing impacted, transformed area. • The spread of exotic species may result from construction activities. This may have implications in the area as a whole if this is not controlled. 	<p>Medium (Negative)</p>	<p>Existing Vegetation</p> <ul style="list-style-type: none"> • Materials should not be delivered to the site prematurely which could result in additional areas being cleared or affected. • Construction site office and laydown areas must be clearly demarcated and no encroachment must occur beyond demarcated areas. • All impacted areas during construction must be rehabilitated with locally indigenous plants. • Design of the landscaped areas shall consider aspects such as habitat provision for a range of bird species, amphibians, reptiles and small mammals, as well as the (long term) restoration of trees that were removed in the construction of the proposed building and associated infrastructure. 	<p>Low (Negative)</p>



		<p>Exotic Vegetation</p> <ul style="list-style-type: none">• All exotic vegetation must be removed from site.• Alien vegetation on the site will need to be controlled in terms of Government Notice R1048.• The contractor should be responsible for implementing a programme of weed control (particularly in areas where soil has been disturbed); and grassing of any remaining stockpiles to prevent weed invasion.• The spread of exotic species occurring throughout the site should be controlled. <p>Herbicides</p> <ul style="list-style-type: none">• Herbicide use shall only be allowed with the approval of the developer and according to contract specifications. The application shall be according to set specifications and under supervision of a qualified technician. The possibility of leaching into the surrounding environment shall be properly investigated and only environmentally friendly herbicides shall be used. <p>Fauna</p> <ul style="list-style-type: none">• The contractor as well as his construction workers must be sympathetic towards any fauna present on site.• All construction staff must attend a training workshop during which the dangers of certain faunal species	
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		(especially snakes) will be explained. This workshop must be conducted by a qualified personnel. Workers must be instructed not to kill any snakes encountered on the site, but rather to call a suitably qualified park person to remove it off the site.	
TRAFFIC <ul style="list-style-type: none"> • If vehicles are not maintained it may lead to contamination and unnecessary noise. • Slow moving vehicles, if utilising public access routes, could cause congestion at peak visitor times. • If delivery of equipment and materials are not planned carefully it may lead to a visual and noise impacts. 	Medium (Negative)	<ul style="list-style-type: none"> • Delivery of equipment must be undertaken with the minimum reasonable amount of trips. • Planning of site delivery hours must be scheduled to avoid weekends and evenings, in so far as possible. • Wheel washing and damping down of unsurfaced roads must be implemented to reduce dust. • Routes should be clearly defined as not to endanger fauna, flora and residents. • Damping down of roads and wheel washing should be done using water with discretion, so as not to waste water unnecessarily. • Planning of access routes to the site for construction purposes shall be done in conjunction between the Contractor and the developer. All agreements reached should be documented and no verbal agreements should be made. The Contractor shall properly mark all access roads. Roads not to be used shall be marked with a “NO ENTRY” sign. 	Low (Negative)



		<ul style="list-style-type: none"> A site speed limit of 20km/h must not be exceeded. 	
AIR QUALITY <ul style="list-style-type: none"> Short-term negative impacts on the air quality will occur from dust and exhaust fumes during construction. 	Low (Negative)	Dust Control: <ul style="list-style-type: none"> Wheel washing and damping down of unsurfaced and unvegetated areas, taking water saving into account. Retention of vegetation where possible will reduce dust travel. Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into adjacent areas. Any complaints or claims emanating from the lack of dust control shall be attended to immediately by the Contractor and ECO. 	Low (Negative)
Groundwater and Stormwater <ul style="list-style-type: none"> Local groundwater quality deterioration due to oil and fuel spills. Stormwater may carry pollutants to other parts of the site if not carefully controlled. Fatal flow during the operation of the cemetery may also contaminate groundwater 	Medium (Negative)	Groundwater: <ul style="list-style-type: none"> Water usage, land use, waste management, and on-site sanitation associated with the proposed new development must be designed and managed so as not to impact, insofar as possible negatively on the groundwater resources on the site. Facilities for the collection and disposal of waste on the site should occur in sealed surfaces which would ensure that there is no waste entering the soil profile. 	Low (Negative)



		<ul style="list-style-type: none"> • Regular water samples will be collected periodically to determine the groundwater quality. Hydrology and Stormwater: • The site must be managed in order to prevent pollution of drains, groundwater, due to suspended solids, silt or chemical pollutants. • Promote water saving mind set with construction workers in order to ensure less water wastage. • Grids / Litter traps should be placed at the entry point to drains and should be cleaned on a regular basis. 	
<p>WASTE GENERATION</p> <ul style="list-style-type: none"> • Increased waste generation during construction and operational phases. 	<p>Medium (Negative)</p>	<ul style="list-style-type: none"> • Care should be taken not to dump waste indiscriminately as this could have a negative impact on the ecosystem and may lead to injury to humans and animals. <p>Construction Rubble:</p> <ul style="list-style-type: none"> • All rubble must either be used on site as part of the existing development or must be taken off the site and disposed of at an approved site. • Rubble must not be dumped on the ground but must be placed within a skip bin for regular removal, insofar as possible. <p>Litter Management:</p> <ul style="list-style-type: none"> • Refuse bins must be placed at strategic positions to ensure that litter does not accumulate within the 	<p>Low (Negative)</p>



		<p>construction site. These should be kept covered and arrangements made for them to be collected regularly from the site.</p> <ul style="list-style-type: none"> • A housekeeping team should be appointed to regularly maintain the litter and rubble situation on the construction site. • Waste disposal will need to take place in terms of Section 20 of the Environment Conservation Act (Act No. 73 of 1989). • Littering by the employees of the Contractor shall not be allowed under any circumstances. The ECO shall monitor the neatness of the construction site. 	
<p>Storm water Management</p> <ul style="list-style-type: none"> • Hardened surfaces, as opposed to undeveloped areas natural vegetation, will lead to an increase in runoff, which in turn may lead to increased pressure being exerted in storm water control system. 	Medium (Negative)	<ul style="list-style-type: none"> • New stormwater construction must be developed strictly according to specifications from engineers in order to ensure efficiency. • The site must be managed in order to prevent pollution of drains, downstream watercourses or groundwater, due to suspended solids, silt or chemical pollutants. 	Low (Negative)
Increase Demand on Water and Energy Resources	Low (Negative)	<ul style="list-style-type: none"> • To monitor proper management of resources, water and electricity metres will be installed. 	Low (Negative)
Fire Risk	Medium (Negative)	<ul style="list-style-type: none"> • Hold fire prevention talks and reminders regularly with the staff on fire prevention. 	Low (Negative)



<ul style="list-style-type: none"> Ignorance on the part of the workers might result in fires, especially in winter when the vegetation is dry or during the operational phase. 		<ul style="list-style-type: none"> Ensure adequate firefighting equipment on site and in all major working areas and train workers on how to use it. Ensure that all workers on site know the proper procedure in case of a fire incidence on site. Smoking must not be permitted in those areas considered a fire hazard. Smoking should only be allowed in designated areas. “No-smoke” signs must be placed at areas with high fire risk. 	
<p>Security risk</p> <ul style="list-style-type: none"> An increased number of personnel on site might threaten the security in the area. 	Low (Negative)	<ul style="list-style-type: none"> Workers must be identified by overalls or the logo of the contractor. Workers must not be allowed to trespass on private and commercial property in the neighbouring areas. The site should be fenced and there must be controlled access to the site during construction and operation phase. No unauthorized personnel should access the construction site. Weapons must not be allowed on site, except for a security guard that may be allowed to carry a weapon. 	Low (Negative)
<p>Health and Safety</p> <ul style="list-style-type: none"> The health and safety of workers and other personnel utilizing the site and adjacent 	Medium (Negative)	<ul style="list-style-type: none"> The contractor must implement the standards set out in the OHS Act (No. 85 of 1993). This act aims at protecting workers with regards to their activities at work. 	Low (Negative)



<p>sites might be at risk if proper preventive measures are not put in place.</p>		<ul style="list-style-type: none">• The Contractors must ensure that emergency procedures applicable to the construction phase are set up prior to commencing work. Emergency procedures shall include, but are not limited to, fire, spills, contamination of the ground, accidents involving employees, use of hazardous substances, etc.• Workers must be provided with appropriate Personal Protection Equipment (PPE).• Proper signage must be strategically placed in the area of the construction site.• Workers must be supplied with hearing protection if noise levels exceed 85 decibels.• Workers are not allowed to drink alcohol during working hours.• The contractor must respect the workers' right to refuse to work in an unsafe and unhealthy environment.• Material stockpiles or stacks must be stable and well secured to prevent collapse of the stockpile and possible injury to workers.• Provide first aid equipment and have a qualified first aid practitioner on site during construction.• All work to be carried out under strict supervision and according to best practices.	
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		<ul style="list-style-type: none">• All dangerous or no-go-areas on site should be clearly marked as such, including areas for storing dangerous materials.• Keep record of injuries on site.	
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13.3 Gaps in knowledge or assumption made in the assessment

The information in this report is sufficient for the purposes of providing the department with sufficient information to make an informed decision to grant approval or not. The nature of an impact study is always based on predicting the impacts of a proposed activity / development based on knowledge that can be substantiated and where there are gaps in knowledge, there are uncertainties and assumptions are also made. There are no gaps in knowledge in this impact study.

13.4 Impact Significance

Based on the outcome of the significance scoring noted in table 2, the overall significance impact without mitigation, is considered to be MEDIUM, with mitigation the overall significance impact is considered to be LOW. As such, it is the recommendation of the EAP that the preferred site and the preferred technology should be adopted.

13.5 A reasoned opinion as to whether the activity should or should not be authorized

The basic assessment indicates that the proposed development will not result in unacceptable cumulative impacts. Furthermore, no undesirable or unmanageable environmental impacts were identified which suggest that the activity and the site alternatives are undesirable/unsuitable and/or pose a risk to the local environment or resident people.

14 SOCIO-ECONOMIC CHARACTER

Lekwa Local Municipality is one of seven Local Municipalities that make up the Gert Sibande District. It is located in the south-west of the Gert Sibande District and is bordered by Pixley ka Seme and Msukaligwa LM on the east, Dipaliseng Local Municipality to the west and Govan Mbeki Local Municipality in the north. In the south the municipality shares a boundary with Phumelela Local Municipality in the northern part of the Free State Province. Lekwa Local Municipality covers an area of 4 586km² (14% of the total area of the District Municipal Area) and accommodates approximately 115 611 people (10% of the total population) which makes it one of the smaller Local Municipalities in the district. According to the Gert Sibande Spatial Development Framework, 2020, Standerton is one of four first order service centres within the district, together with Secunda, Ermelo and Piet Retief.

These towns have the largest populations of all towns in the District, and also offer the widest spectrum of activities and services, including business, retail, industrial uses, social services and residential uses. The municipal area consists mostly of agriculture, and urban settlements make up only a small portion of the total municipal area, but play a critical role in the provision of services as it contains the bulk of trade, finance, construction, transport, manufacturing and community sectors making up 53% of total GVA and 79% of total employment.

The Gert Sibande SDF identified Standerton as a first order node and Morgenzon and Thuthukani as third order nodes. No second order nodes were identified. Standerton is centrally located within the Lekwa Local Municipality and being



the main urban settlement dominates industrial and manufacturing activities within the local municipal area. In terms of business activities, Standerton makes the largest contribution to both private sector services and retail activities, and public services and administration activities.

15 RECOMMENDATIONS BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

The envisaged negative impact would not outweigh the positive impact provided that the proposed recommendations are properly implemented. The need and desirability for the township development is of high priority for the affected parties. The responsibility rest with the Mpumalanga Department of Agriculture, Rural Development, Land and Environmental Affairs (DARDLEA) who are presiding over this application and the Lekwa Local Municipality who is the applicant. The EAP is of the view that Environmental Authorization should be granted on certain conditions which would be outline on this section. After an Authorization has been granted, it is the applicant's responsibility (Municipality's) to ensure that all recommendation outline in this report as well as on the EMPr are properly implemented.

16 ENVIRONMENTAL IMPACT STATEMENT

The assessment exercise concludes that the site can be used for the proposed establishment of a cemetery, with the necessary mitigation measures in place, and provided the management recommendations outlined in this report are implemented. An environmental impact statement table presents key findings and a comparative assessment of positive and negative implications of the proposed activity as well as alternatives and relevant mitigation measures where appropriate.

17 REFERENCES

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National Environmental Management Biodiversity Act of 2004 (NEMBA).

National Water Act of 1998 (NWA).



18 APPENDICES

The following appendices are attached:

Appendix A: Topographical Map

Appendix B: Site Photographs

Appendix C: Layout Plan

Appendix D: Specialist reports (including terms of reference)

Appendix E: Public Participation

Appendix G: Environmental Management Programme (EMPr)

Appendix H: Curriculum Vitae of EAP

Appendix I: Additional Information