



**DRAFT SCOPING REPORT FOR THE PROPOSED DEMARCATION OF SITES ON A PORTION OF THE  
FARM KEERWEDER 169-MT, IN DOLI-DOLI UNDER THE JURISDICTION OF MAKHADO LOCAL  
MUNICIPALITY, LIMPOPO PROVINCE.**

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**JULY 2021**

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## **ACRONYMS AND ABBREVIATIONS**

EMC	Environmental Management Committee
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&AP	Interested and Affected Party
LEDET	Limpopo Department of Economic Development, Environment and Tourism
IAR	Impact Assessment Report
IDP	Integrated Development Plan
NEMA	National Environmental Management Act of 1998 as amended
NHRA	National Heritage Resources Act of 1999
NWA	National Water Act of 1998
PPP	Public Participation Process
SANRAL	South African National Roads Agency Limited
SDF	Spatial Development Framework
CA	Competent Authority
EA	Environmental Authorisation
ROD	Record of Decision
SR	Scoping Report

## **EXECUTIVE SUMMARY**

Mang Geoenviro Services has been appointed by Makhado Local Municipality as an Independent Environmental Assessment Practitioners (EAP) to undertake a full Scoping and Environmental Impact Assessment (EIA) for the proposed demarcation of sites on a portion of the farm Keerweder 169-MT in Doli-Doli, under the jurisdiction of the Vhembe district Municipality, Limpopo Province.

The applicant is proposing to demarcate 350 sites covering an area of approximately of 50.61 hectares in Doli-Doli village, Limpopo Province. The geographical coordinates of the site are:

**Latitude:** 22°44'7.34" S

**Longitude:** 30°10'14.78" E

The proposed demarcation of 350 sites in Doli-Doli will consist of the following infrastructure- **REFER TO THE LAYOUT PLAN**

- 340 Residential 1 - residential
- 3 Business 1 - business
- 2 Educational - crèche
- 6 Public open space - park
- 1 Institutional - place of worship
- Streets

The Scoping and EIA Process is being undertaken in terms of the National Environmental Management Act (Act no.107 of 1998) (NEMA) read with the Environmental Impact Assessment Regulations, 2017 (GNR 326 of 7 April 2017).

**REPORT TITLE:** DRAFT SCOPING REPORT FOR THE PROPOSED DEMARCATION OF SITES ON A PORTION OF THE FARM KEERWEDER 169-MT, IN DOLI-DOLI UNDER THE JURISDICTION OF MAKHADO LOCAL MUNICIPALITY, LIMPOPO PROVINCE.

**CLIENT:** MAKHADO LOCAL MUNICIPALITY

**PROJECT NAME:** DRAFT SCOPING REPORT FOR THE PROPOSED DEMARCATION OF SITES ON A PORTION OF THE FARM KEERWEDER 169-MT, IN DOLI-DOLI UNDER THE JURISDICTION OF MAKHADO LOCAL MUNICIPALITY, LIMPOPO PROVINCE.

**DATE:** JULY 2021

## **DECLARATION OF INTEREST**

I, Phakwago Kabelo, as authorised representative of Mang Geoenviro Services hereby confirm my independence as an Environmental Assessment Practitioner and declare that neither I nor Mang Geoenviro Services have any interest, be it business, financial, personal or other, in any proposed activity, application or appeal in respect of which Mang Geoenviro Services was appointed as Environmental Assessment Practitioner in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), other than fair remuneration for worked performed, specifically in connection with the Environmental Authorisation process for the demarcation of sites in Doli-Doli.



## 1. INTRODUCTION

Mang Geoviro Services was appointed by Makhado Local Municipality to conduct an Environmental Impact Assessment for the proposed demarcation of sites on a portion of farm keerweder 169-MT, Vhembe District Municipality, Limpopo Province. The geographical coordinates of the proposed site are: 22°44'7.34" S 30°10' 14.78" E. The proposed project site will be on an area of approximately 50.61 hectares.

The project will entail demarcation of 350 sites in Doli-Doli village under the jurisdiction of the Makhado Local Municipality which will consist of the following infrastructure- **REFER TO THE LAYOUT PLAN**

- 340 Residential 1 - residential
- 3 Business 1 - business
- 2 Educational - crèche
- 6 Public open space - park
- 1 Institutional - place of worship
- Streets

LAND USE					
ZONING	LAND USE		NO. OF STANDS	AREA Ha.	% OF AREA
RESIDENTIAL 1	RESIDENTIAL 900m2		340	33.404537	65.9978
BUSINESS 1	BUSINESS		3	0.739202	1.4605
INSTITUTIONAL	PLACE OF WORSHIP		1	0.147587	0.2916
EDUCATIONAL	CRECHE		3	0.52709986	1.041399
PUBLIC OPEN SPACE	PARK		6	7.34593953	14.5135
STREETS	*	*	*	8.450219	16.6952
TOTAL	*		353	50,6146	100

## 2. PROJECT 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 Makhado Local Municipality “applicant” wants to demarcate these sites for better accessibility of business area, education, etc. within the Doli-Doli village for the future improvements. 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.

### 3. SITE LOCALITY

The proposed project site is located in Doli-Doli village, Limpopo Province. The geographical coordinates of the proposed site are: 22°44'7.34" S 30°10'14.78" E and the proposed development site is approximately 50.61 hectares.



Figure 1: Locality map of the proposed development area

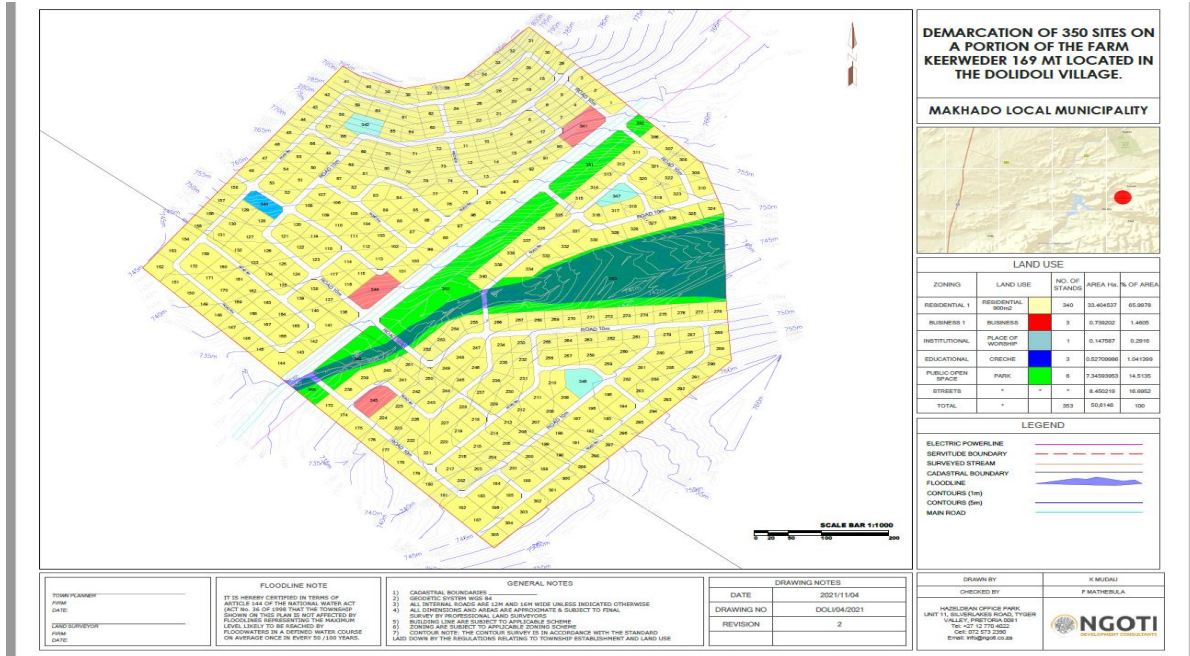


Figure 2: Proposed demarcation layout plan

## **4. PROPERTY DESCRIPTION**

### **4.1. Topography**

The Vhembe District Municipality is characterized by both high-lying and low-lying areas. Its relief is divided into the lowveld in the east; the Limpopo valley in the north and northwest; the Soutpansberg region in the central part, and the Pietersburg plateau in the south. The altitude above sea level of the Vhembe District varies between 200m in the northeastern part of the area and over 1 500 m in the Soutpansberg mountain range.

### **4.2. Geology and Soils**

The study area covers part of the junction between the granite-greenstone terrain of the north-eastern part of the Kaapvaal Craton and the highly metamorphic rocks of the Southern Marginal zone of the Limpopo Mobile Belt.

### **4.3. Climate**

The climate of Vhembe District Municipality is warm and temperate, whereby it varies between 18 degrees in the area that has mountains and 28 degrees in the rest of the area, with 25.5 degrees Celsius in average. In winter, there is much less rainfall than summer. The average annual temperature is 18.7°C. The rainfall in the area under investigation is around 793mm per year. The driest month is August with 9mm of rain. Most precipitation falls in January with an average of 153mm. January is warmest month of the year. The temperature in January averages 21.9°C. Moreover; in June, the average temperature is 13.4°C, it is the lowest average temperature of the whole year. Furthermore, there is a difference of 144mm of precipitation between the driest and wettest months, with the average temperature varying during the year by 8.5°C.

### **4.4. Vegetation**

The Vhembe District Municipality is characterized by the Savanna biome and it covers approximately 98% of the vegetation with the remainder being made up of Forest (1%) and Grassland (0.2%) biome.

### **4.5. Hydrology**

The study area consists of various river systems that forms a part of the major catchment area, known as Limpopo and Olifants primary catchment areas consist of 85.65% and 14.35% respectively. The major river systems found in these catchment areas include Luvuvhu river system, Nzhelele river systems, little Letaba river as well as the Sand and Hout river system.

### **4.6. Sensitive Area**

The project area has a very high terrestrial biodiversity sensitivity. The ecological/ biodiversity study has to be done rating of the sensitives of the area.

## MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY

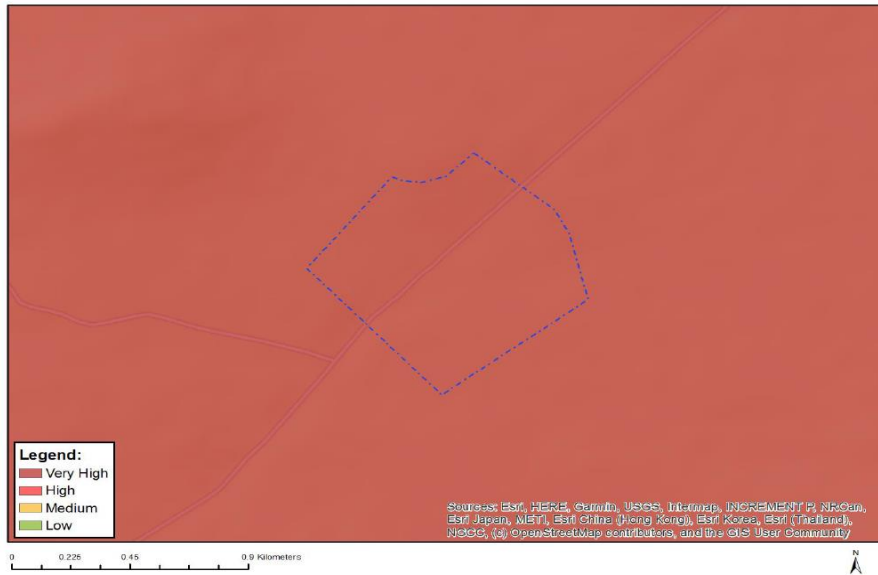


Figure 3: Sensitivity map of the proposed site

### 5. PROJECT ALTERNATIVES

In terms of Environmental Impact Assessment (EIA) regulation, the Environmental Assessment Practitioner (EAP) should investigate feasible and reasonable alternatives for the proposed project. In other words, different means of meeting the requirements for the activity.

No site alternatives were identified so far, however there is a possibility of a layout alternative that will still meet the objective of the project scope.

#### The No-Go Alternative

The no-go alternative is the option not to go ahead with the development. The no-go alternative will only be considered as an alternative if it is concluded that the preferred alternative will have significant negative impacts on the environment which cannot be reduced or managed to an acceptable level. As there it has already been indicated that there is a need and desirability for the proposed development it is anticipated that this development will relieve the demand for housing and basic services in the region. It is anticipated that the no-go alternative will constrain the development planning of the Local Municipality.

## 6. LEGISLATIVE GUIDELINES

### 6.1. National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended

The National Environmental Management Act (NEMA) provides the legislative framework for Integrated Environmental Management (IEM) in South Africa. Section 24 provides that all activities that may significantly affect the environment and require authorization by law must be assessed prior to approval. NEMA also provides for co-operative environmental governance by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of the State and to provide for matters connected therewith. Section 2 of NEMA establishes a set of principles that apply to the activities of all organs of state that may significantly affect the environment. These include the following:

- Development must be sustainable;
- Pollution must be avoided or minimised and remedied;
- Waste must be avoided or minimised, reused or recycled;
- Negative impacts must be minimised; and
- Responsibility for the environmental health and safety consequences of a policy, project, product or service exists throughout its life cycle.

These principles are taken into consideration when a government department exercises its powers, for example during the granting of permits and the enforcement of existing legislation or conditions of approval. Section 28(1) of NEMA states that “every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring”. If such pollution cannot be prevented, then appropriate measures must be taken to minimize or rectify such pollution. These measures may include:

- Assessing the impact on the environment;
  - Informing and educating employees about the environmental risks of their work and ways of minimising these risks;
  - Ceasing, modifying or controlling actions which cause pollution/degradation;
  - Containing pollutants or preventing movement of pollutants;
  - Eliminating the source of pollution; and
  - Remedying the impacts of the pollution.
- The authorities may direct an industry to rectify or remedy a potential or actual pollution problem.
- If such a directive is not complied with, the authorities may undertake the work and recover the costs from the responsible industry.

Listed Activity	Activity Number	Description
GNR 325 of 7 April 2017	Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.

Table 1: Activities triggered by the proposed development.

6.2. Other guidelines and documentation considered in the finalizing of the Scoping Report includes:

6.2.1. Constitution of the Republic of South Africa

The Constitution of the Republic of South Africa has major implications for environmental management. The main effects are the protection of environmental and property rights, the change brought about by the sections dealing with administrative law, such as access to information, just administrative action and broadening of the locus stands of litigants. These 15 aspects provide general and overarching support and are of major assistance in the effective implementation of the environmental management principles and structures of the NEMA. Section 24 in the Bill of Rights of the Constitution specifically states that: Everyone has the right –

To an environment that is not harmful to their health or well-being, and;

To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –

- Prevent pollution and ecological degradation;
- Promote conservation; and
- Secure ecologically sustainable development and use of natural resources while promoting
- Justifiable economic and social development.

**6.2.2. National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004)**

The purpose of the Biodiversity Act is to provide for the management and conservation of South Africa's biodiversity within the framework of the NEMA and the protection of species and ecosystems that warrant national protection. As part of its implementation strategy, the National Spatial Biodiversity Assessment was developed. This Act is applicable to this application for environmental authorisation, in the sense that it requires the project applicant to consider the protection and management of local biodiversity.

### **6.2.3. Integrated Environmental Management (IEM)**

IEM is a philosophy for ensuring that environmental considerations are fully integrated into all stages of the development process. This philosophy aims to achieve a desirable balance between conservation and development (DEAT, 1992). The IEM guidelines intend encouraging a pro-active approach to sourcing, collating and presenting information in a manner that can be interpreted at all levels. The DEA Integrated Environmental Management Information Series guidelines are also considered during this S&EIR application process. 17 EIA Regulations promulgated under the National Environmental Management Act, Act 107 of 1998, as amended (NEMA EIA Regulations, 2014) New EIA Regulations were promulgated under Section 24 of NEMA and came into effect on 04 December 2014. These EIA Regulations prescribe two different authorisation processes as follows:

- The Basic Assessment Process; and
- The Scoping and EIA process.

Irrespective of which process applies, the Regulations make provision for the following:

- Public Participation must be undertaken at various stages during the assessment process.
- Assessments must be conducted by an Independent Environmental Assessment Practitioner (EAP).
- The authority delegated with deciding on environmental applications respond to applications and submissions within stipulated timeframes.
- Decisions taken by the authorities can be appealed by the proponent or any other Interested and Affected Party (IAP).

### **6.2.4. National Heritage Resources Act, 1999 (Act No. 25 of 1999)**

This Act legislates the necessity for cultural and heritage impact assessment in areas earmarked for development, which exceed 0.5 hectares (ha) and where linear developments 19 (including roads) exceed 300 metres in length. The Act makes provision for the potential destruction to existing sites, pending the archaeologist's recommendations through permitting procedures. Permits are administered by the South African Heritage Resources Agency (SAHRA).

### **6.2.5. Authority Consultation**

The competent authority to approve the construction of the road upgrade is the Limpopo Department of Economic Development, Environment and Tourism (LEDET). The site does not have implications for international environmental commitments or relations; and will not take place within an area protected by means of an international environmental instrument, or the site is not a conservancy; a protected natural environment; a proclaimed private nature reserve; a natural heritage site; the buffer zone or transitional area of a biosphere reserve; or the buffer zone or transitional area of a world heritage site. Therefore, the competent authority has been correctly identified, based on the above reasons.

## **7. CONTACT DETAILS OF THE EAP**

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Telephone	012 770 4022/ 079 054 7652

## **8. SPECIALIST STUDIES**

Specialist studies which have been identified in terms of Section 28 (1) of the NEMA EIA Regulations, of which some are the following:

- Heritage Impact Assessment report
- Ecological/ Biodiversity report
- Geotechnical report
- Engineering Services report

These studies will be used to identify issues at a scoping study phase and impacts will be mitigated during the EIA phase of the project.

## **9. ENVIRONMENTAL AUTHORISATION PROCESS**

Mang Geoenviro Services, as independent environmental consultants, will facilitate the implementation of the Integrated Environmental Management (IEM) process as per the approved EIA Guideline as follows:



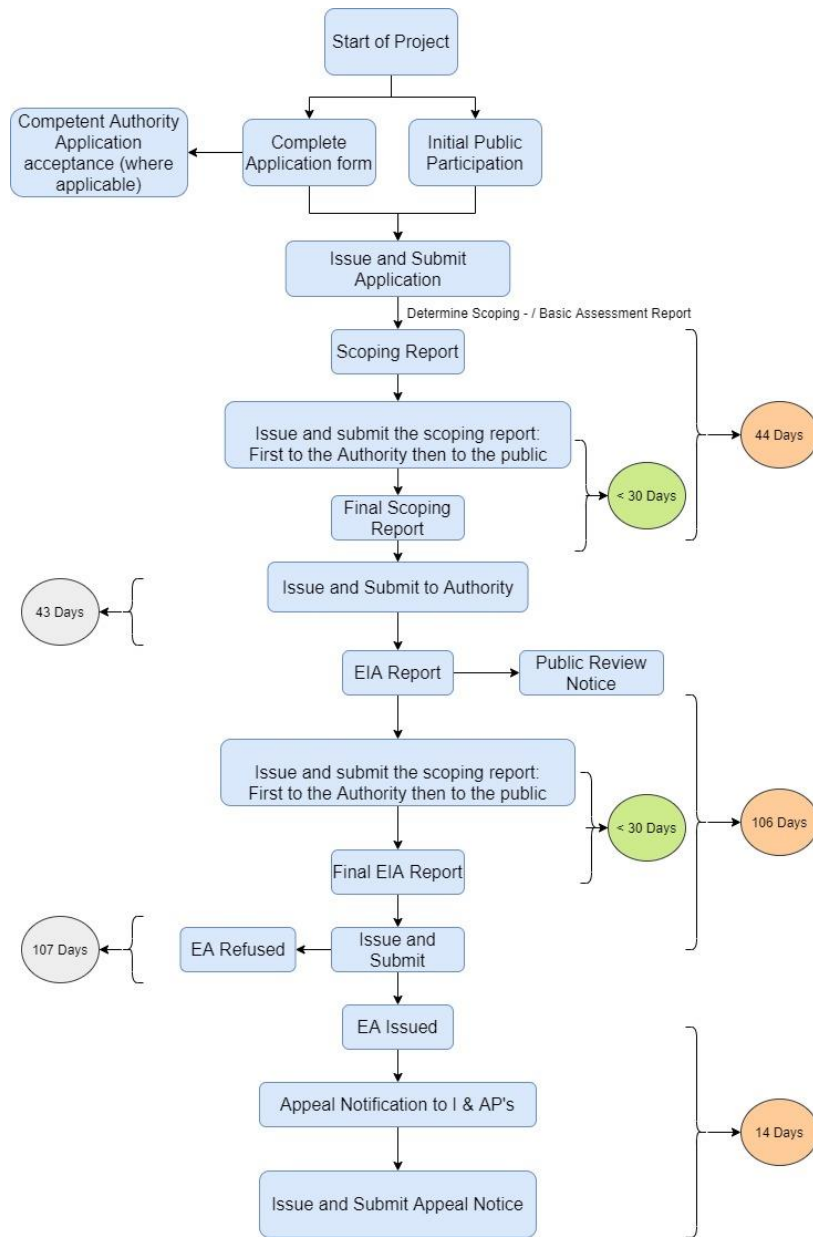


Figure 4: EIA process diagram.

## 10. THE RECEIVING ENVIRONMENT

A broad range of potential environmental impacts that may have a significant impact on the environment have been identified during the Scoping Process, and will be subject to further investigation as part of the Impact Assessment Phase. A summary of the potential environmental impacts that were identified is provided below, with further details of those impacts that require further investigation described in Section below:

## 10.1. Description of Potential Impacts to be investigated further

The following Potential Impacts must be further investigated by means of the Methodology described in section below.

### **Geology**

Due to construction, disturbance in surface geology may occur as result of foundations. The potential impacts relating to geology and soil will be evaluated by a specialist geotechnical report that will elaborate on the underlying geology and the soil composition and texture of the site.

### **Topography**

Erosion during the clearing and construction phases of the project may lead to an impact on the topography. Building material may also alter the topography of the area.

### **Topsoil and Land use**

During the construction phase of the project, soil recourses including essential top soil may be impacted on. Erosion of topsoil may occur as well as the compaction of soil.

### **Surface Water and Groundwater**

Contamination of surface water may occur as a result of improper management of contaminants. Improper management of sanitation may result in the contamination of groundwater. The project is adjacent to wetland on the western boundary of the property. A wetland impact assessment and or ecological assessment will detail the impacts of the development to such resources.

### **Fauna**

Impact on Fauna may occur as a result of the distraction of habitats during the construction phase and clearing phase of the project.

### **Flora**

A loss in vegetation may occur during vegetation removal prior to construction activities taking place.

### **Noise**

During the construction phase of the project, noise will be generated by construction vehicles, construction machinery and contractors.

### **Air Quality**

CO<sup>2</sup> Emissions from construction vehicles and machinery, as well as dust during the construction phase will have an impact on air quality.

### **Archaeology and Paleontology**

The possibility occurs that the construction activity may lead to an impact on Archaeology and Paleontology aspects. The site is within an area marked with high potential of archaeological discoveries though none were identified during the site assessment

### **Visual Impacts**

The visual perspective of the property will be changed.

### **Socio Economic**

Socio Economic can be divided into the following two categories:

#### **Positive Socio-Economic Impacts:**

The proposed development will result in job creation during the construction phase of the project.

#### **Negative Socio-Economic Impacts:**

- An increase in criminal activities in the local regions of the proposed activity.
- Safety impacts may occur as a result of improper safety management on site.

### **Cumulative Impacts**

Cumulative Impacts include a potential change in surface and ground water source quality. This impact will be investigated further in the Impact Assessment Report.

#### 10.2. Methodology adopted in the assessment of potential impacts

The impacts must be evaluated by applying the methodology as described below. The impact is defined and the significance is rated from Low to High as indicated in the table below with an explanation of the impact magnitude and a guide that reflects the extent of the proposed mitigation measures deemed necessary.

The Nature of impact is a broad indication of what is being affected and how.

Severity relates to the nature of the event, aspect or impact to the environment and describes how severe the aspects impact on the biophysical and socio-economic environment.

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	<b>Classification of whether the impact is positive or negative , direct or indirect</b>
Extent	<p><b>Spatial scale of impact and classified as:</b></p> <p><b>Site:</b> the impacted area is the whole site or a significant portion of the site</p> <p><b>Local:</b> within a radius of 2 km of the construction site.</p> <p><b>Regional:</b> the impacted area extends to the immediate, surrounding and neighboring properties.</p> <p><b>National:</b> the impact can be considered to be of national significance.</p>
Duration	<p><b>Indicates the lifetime of the impact and is classified as:</b></p> <p><b>Short term:</b> the impact will either disappear with mitigation will be mitigated through natural processes in a span shorter than the construction phase.</p> <p><b>Medium term:</b> the impact will last for the period of the construction phase, where after it will be entirely negated.</p> <p><b>Long term:</b> 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><b>Permanent:</b> 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><b>Describes whether an impact is destructive or benign</b></p> <p><b>Low:</b> impact affects the environment in such a way that natural, cultural and social functions and processes are not affected.</p> <p><b>Moderate:</b> affected environment is altered but natural, cultural and social functions and processes continue albeit in a modified way.</p> <p><b>High:</b> natural, cultural and social functions and processes are altered to extent that they temporarily cease.</p> <p><b>Very high:</b> natural, cultural and social functions and processes are altered to extent that they permanently cease.</p>
Probability	<p><b>Describes the likelihood of an impact to occur:</b></p> <p><b>Improbable:</b> likelihood of the impact materializing is very low.</p> <p><b>Possible:</b> the impact may occur.</p> <p><b>Highly probable:</b> most likely that the impact will occur.</p> <p><b>Definite:</b> the impact will occur.</p>

Significance	<p><b>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:</b></p> <p><b>Low:</b> the impacts are less important.</p> <p><b>Medium:</b> the impacts are important and require attention, mitigation is required to reduce the negative impacts.</p> <p><b>High:</b> the impacts are of great importance. Mitigation is therefore crucial.</p>
Cumulative	<p><b>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.</b></p>
Mitigation	<p><b>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.</b></p>

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		

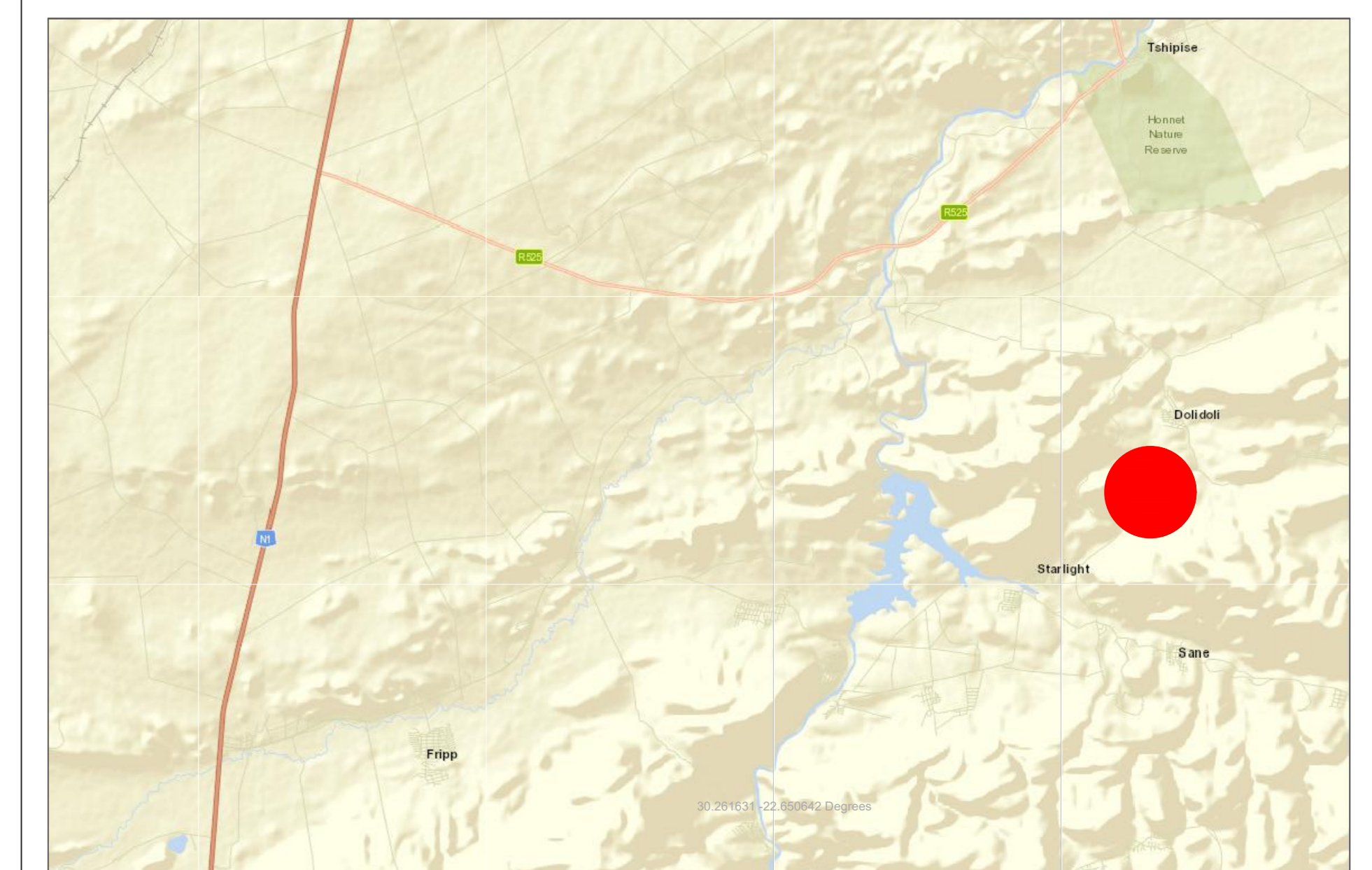
		phases. The effects of the impact may affect the broader environment.
Status	Perceived effect of the impact	
Positive (+)	Beneficial impact	
Negative (-)	Adverse impact	
Negative impacts are shown with a (-) while positive ones are indicated as (+)		

## 11. CONCLUSION AND RECOMMENDATIONS

The above draft report provides a broad introduction into the issues that are applicable to the proposed development, and highlights important issues to be investigated during the EIA Phase of the project. The EIA Phase will draw on the above information and make use of the recommended specialist studies to reach an objective decision on the overall impact of the proposed development. The EIA Phase must culminate in the compilation of mitigation measures to reduce impacts, and the identification of sensitive areas within the study area which may require more specific management measures. The EIA Phase will also aim to optimize and improve potential positive impacts that may result from the proposed development. Specialist studies conducted during the scoping phase for the proposed development will identify any fatal flaws for the project site. However, a number of potentially significant (positive and negative) environmental impacts will be identified and will need to be evaluated during the detailed EIR phase of the project. In addition, the EIR Phase will provide a more detailed comparative analysis of these potential impacts against the “no-go” alternative. Detailed mitigation and management measures will be developed during the Environmental Management Programme (EMPr) phase of the project, in response to the detailed assessment, and will be run towards the end of EIR phase of the project. Please note that this is not an environmental authorisation, therefore the proposed activity must not commence until the Environmental Authorisation is obtained from the Competent Authority (LEDET).

# DEMARCATION OF 350 SITES ON A PORTION OF THE FARM KEERWEDER 169 MT LOCATED IN THE DOLIDOLI VILLAGE.

## MAKHADO LOCAL MUNICIPALITY



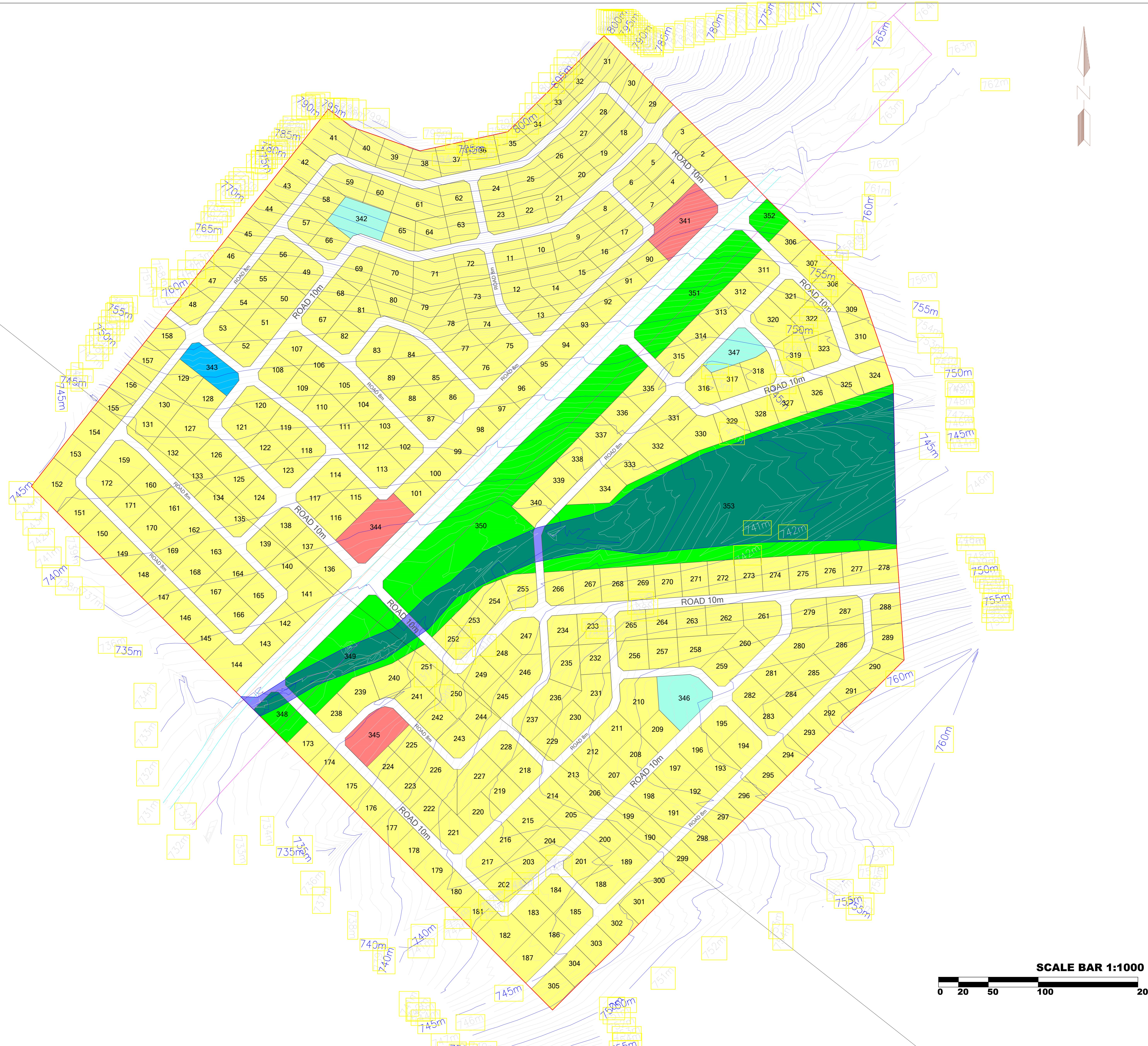
### LAND USE

ZONING	LAND USE	NO. OF STANDS	AREA Ha.	% OF AREA
RESIDENTIAL 1	RESIDENTIAL 900m2	340	33.404537	65.9978
BUSINESS 1	BUSINESS	3	0.739202	1.4605
INSTITUTIONAL	PLACE OF WORSHIP	1	0.147587	0.2916
EDUCATIONAL	CRECHE	3	0.52709986	1.041399
PUBLIC OPEN SPACE	PARK	6	7.34593953	14.5135
STREETS	*	*	8.450219	16.6952
TOTAL	*	353	50,6146	100

### LEGEND

ELECTRIC POWERLINE	
SERVITUDE BOUNDARY	
SURVEYED STREAM	
CADASTRAL BOUNDARY	
FLOODLINE	
CONTOURS (1m)	
CONTOURS (5m)	
MAIN ROAD	

SCALE BAR 1:1000



### FLOODLINE NOTE

IT IS HEREBY CERTIFIED IN TERMS OF ARTICLE 144 OF THE NATIONAL WATER ACT (ACT No. 36 OF 1998 THAT THE TOWNSHIP SHOWN ON THIS PLAN IS NOT AFFECTED BY FLOODLINES REPRESENTING THE MAXIMUM LEVEL LIKELY TO BE REACHED BY FLOODWATERS IN A DEFINED WATER COURSE ON AVERAGE ONCE IN EVERY 50 /100 YEARS.

### GENERAL NOTES

- 1) CADASTRAL BOUNDARIES
- 2) GEODETIC SYSTEM WGS 84
- 3) ALL INTERNAL ROADS ARE 12M AND 16M WIDE UNLESS INDICATED OTHERWISE
- 4) ALL DIMENSIONS AND AREAS ARE APPROXIMATE & SUBJECT TO FINAL SURVEY BY PROFESSIONAL LAND SURVEYORS
- 5) BUILDING LINE ARE SUBJECT TO APPLICABLE SCHEME
- 6) ZONING ARE SUBJECT TO APPLICABLE ZONING SCHEME
- 7) CONTOUR NOTE: THE CONTOUR SURVEY IS IN ACCORDANCE WITH THE STANDARD LAID DOWN BY THE REGULATIONS RELATING TO TOWNSHIP ESTABLISHMENT AND LAND USE

### DRAWING NOTES

DATE	2021/11/04
DRAWING NO	DOLI/04/2021
REVISION	2

TOWN PLANNER

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DATE:

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**THE PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED  
DEMARCATON OF SITES ON A PORTION OF THE FARM KEERWEDER 169-MT, IN DOLI-DOLI  
UNDER THE JURISDICTION OF MAKHADO LOCAL MUNICIPALITY, LIMPOPO PROVINCE.**

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## **1. Introduction**

The Scoping process of the Environmental Impact Assessment (EIA) is fundamental as it allows for the identification of potential impacts on the environment, as well as facilitation of the process of compiling the EIA and Environmental Management Programme (EMPr). The draft Scoping Report will be compiled using the information from the client, specialist studies, site visits, literature reviews as well as previous environmental studies conducted in the area; it therefore, provides a comprehensive baseline of the environment at the proposed site. This Scoping Process has followed the appropriate standards and procedure for the EIA application, as set out in the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended, and the EIA Regulations of April 2017. The Scoping Study includes a description of the various alternatives and indicates those alternatives, which should be pursued as part of the detailed assessment of the EIA process. Impact significance of the proposed activity on the environment will be assessed in the EIA phase with the assistance of the various specialist studies.

The purpose of this section is to outline how the EIA for the proposed demarcation of sites on a portion of the farm Keerweder 169-MT will proceed during EIA phase. The detailed assessment phase of the EIA process entails the integration of the specialist studies for those potential impacts evaluated to be of significance. Relevant mitigation measures will be used to compile an EMPr. This section provides specific terms of reference and impact assessment methodology for utilisation by the specialist team. The Plan of study for EIA also outlines the remainder of the Public Participation Process in terms of the NEMA EIA Regulations.

## **2. Purpose of the Plan of Study**

The Plan of Study for EIA is intended to provide a summary of the key findings of the Scoping Phase and to describe the activities to be undertaken in the Impact Assessment Phase of the EIA process. According to Legislation the document is required to provide the following:

- A description of the tasks that will be undertaken as part of the EIA process, including any specialist reports or specialized processes, and the manner in which such tasks will be undertaken;
- An indication of the stages at which the competent Authority will be consulted;
- A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity;
- Details of the Public Participation Process that will be conducted during the EIA process; and
- Any specific information required by the competent Authority.

The EAP will ensure that the entire process is undertaken as dictated by the Regulations.

### **3. Environmental issues identified during Scoping**

The primary environmental issues identified during the Scoping Phase were determined through a process of analyzing the project scope of work and activities and the potential sources of impacts. The initial focus of the Scoping process was on the site alternatives that exist for the proposed demarcation project, which ended in a desktop analysis; revision of existing information; historical data; consultation with I&APs and various site visits with the EIA team as well as independent site visits undertaken by the specialist team. The site visits were aimed at getting a view of the study area, thereby enabling the specialists and the EAP to conceptualize the study area.

Preliminary discussions on the status quo of the study area are included in this Scoping Report, which serves as a guide to the exploration of the alternatives. The issues identified were grouped into broad categories including the physical, biophysical and socio-economic. During the EIA phase, the specialist studies will need to further examine the key impacts of each of the alternative sites; following which the significance of these impacts will be assessed in the EIA Report.

Following the review by the Limpopo Department of Economic Development, Environment and Tourism (LEDET) the following may be the outcome of this submission:

- Request that amendments be made to the Scoping Report;
- Reject the Scoping Report for given reasons

The Environmental Impact Assessment phase will be required for this project; therefore, this plan of study proposes the approach and methodology of undertaking this phase.

### **4. Environmental Impact Assessment Phase**

The EIA process will be undertaken as set out in the EIA Regulations (2017). The sections that follow will describe the purpose and procedure behind each phase.

#### **4.1. Purpose**

The Environmental Impact Assessment procedures set out by the EIA Regulations (2017) will be followed in carrying out the application process with the relevant authorities. The following are the terms of reference for the completion of the EIA study and the purpose thereof:

- To facilitate authorization of the project in terms of the Environmental Impact Assessment Regulations of 2017:

- Conduct consultation with the Authorities, Interested and Affected Parties through a social facilitation process;
- Find mechanisms for addressing in more detail, issues raised during the Public Participation Process;
- Evaluate concerns and prioritise important and detrimental issues which need to be addressed;
- Address issues that were raised during the Scoping Phase;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance of each impact;
- Develop an EMPr with associated mitigation measures; and
- To evaluate the suitability of the site for the proposed works.

#### 4.2. Proposed Approach and Methodology

Figure 1 below provides a schematic representation of the application procedure followed in order to obtain authorisation to commence with a listed activity.

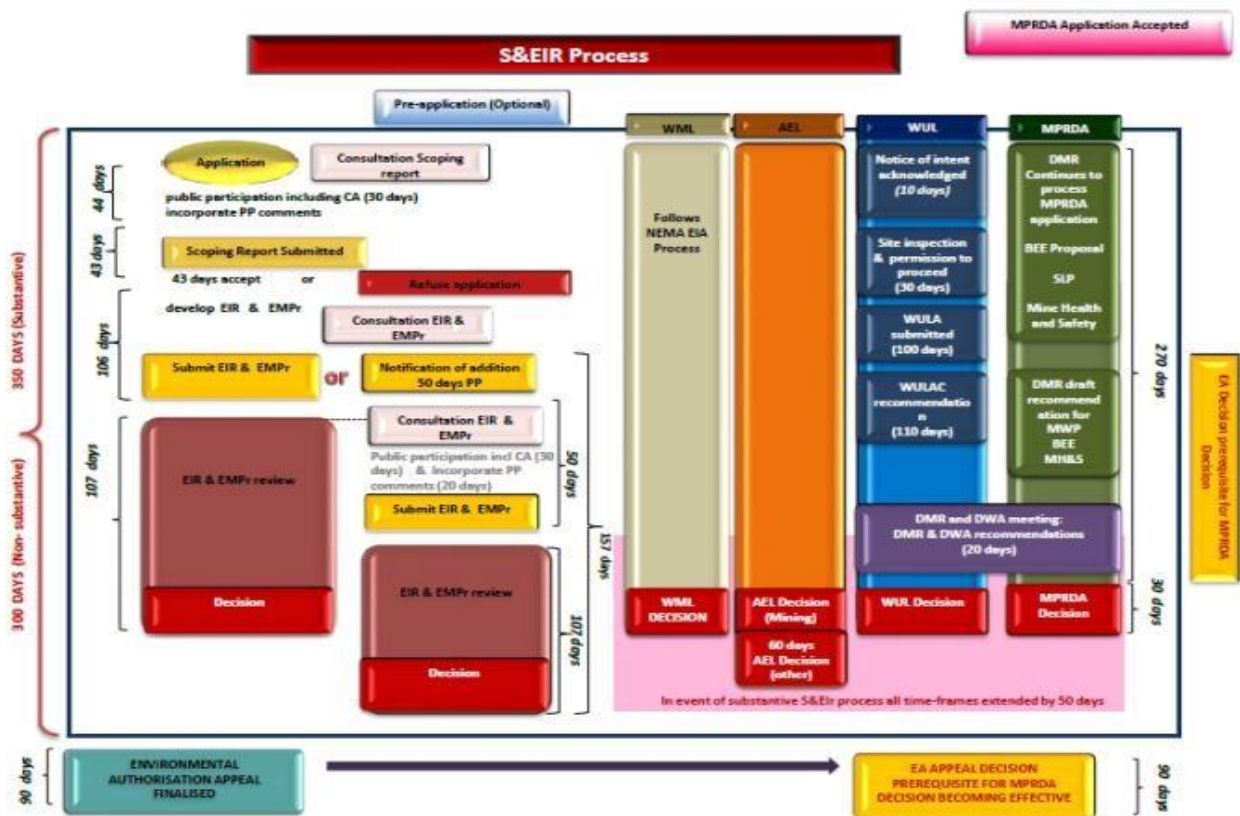


Figure 1: Scoping and Environmental Impact Assessment Process

The following tasks are proposed to be undertaken during the Scoping and EIR Phase:

### **Phase 1: Scoping**

- Create I&AP Database.
- Conduct 30 days PPP on Scoping Report.
- Compile Reports (Plan of Study, Draft Scoping Report).
- Printing and submission hardcopies of Scoping to LEDET, and I&APs for public review, and to client and Associates.
- Respond to each comment received.
- Update Scoping Report based on all comments received during Public Participation.
- Compilation of the Terms of Reference for additional specialist input for the EIA phase specialist reports required / addendums to previous impact reports.
- Management of the appointment of the specialists and input.
- Review of specialist assessments and provide detailed comments for amendment (if required).
- Co-ordination of various specialists input to produce sensitivity maps and site layouts for inclusion in the Scoping Report.
- Submit Final Scoping Report to LEDET.

### **Phase 2: EIR and EMP**

- Conduct 30 days PP on EIA Report.
- Compile EIA Report and EMP Report.
- Update I&AP Database.
- Printing and submission of hardcopies to LEDET, I&APs for public review and to client.
- Respond to each comment received.
- Update EIA Report and EMP based on all comments received during Public Participation.
- Compilation of the Terms of Reference for additional specialist input for the EIA phase specialist reports required/ addendums to previous impact reports.
- Management of the appointment of the additional specialists and input.
- Review of specialist assessments and provide detailed comments for amendment (if required).
- Project management meetings with applicant and specialists.
- Additional site visits with specialists, authorities and I & AP's.
- Submit final EIA Report and EMP Report

## 5. Public Participation Process

The extensive database of stakeholders developed during the scoping process will be used as a basis to ensure that those stakeholders involved in the Scoping Phase also participate in the EIA phase. The database will also be expanded to include I&APs that wish to be involved in the process. Registered I&APs will be informed of the availability of the Draft EIA Report for review and will be given 30 days to provide their comment.

The comments received during the 30-day review period of the Draft EIA Report will be incorporated into an updated Comments & Response Report. Further public consultation will take place in the form of Public meetings and focus group meetings as appropriate. The outcome of the proposed PPP will reveal whether or not further public meetings are required. The purpose of the Public Meetings would be to present the findings of the Draft EIA Report and to present the alternative sites to the relevant stakeholders, registered I&APs and the affected landowners. Mang Geoenviron Services (Pty) Ltd will use this forum to provide more background information about the proposed development including the specialist input, and also to provide the stakeholders with the opportunity to further comment on the proposed development.

In the event that the comments reveal information that changes or influences the impact evaluation provided in the Draft EIA, the necessary amendments will be made to the report. The Final EIA Report will be submitted to the relevant Authorities, subsequent to the second phase of public consultation and simultaneously made available for public review.

### 5.1. Advertising

The development and associated Environmental Assessment process will be widely announced, with an invitation to the general public register as I&APs and to actively participate in the PPP.

This will be achieved via the following:

- A letter of invitation to all I&APs captured on the database
- Print media advertisement in the Local and/or regional newspaper
- On-site advertisement will be pasted in public areas, these will be written in the dominant languages of the area
- The dissemination of a briefing paper and/or background information document (BID) covering: a simplified rationale for and description of the development proposal, a description of the environmental assessment process, including public involvement and, importantly, milestone where stakeholder input is critical and lastly an invitation to I&APs to participate, especially to attend public meetings.

## 5.2. Interaction with the Competent Authority

Interaction with LEDET and the other stakeholders was undertaken during the Scoping Phase and will continue into the EIA Phase of the project. Further interaction will occur in the following manner:

- Submission of the Final Scoping Report;
- A consultation meeting with various stakeholders as appropriate, to discuss the findings of the Final Scoping Report and the issues identified for consideration in the Draft EIA;
- Attendance at meetings (taking in consideration of COVID 19 regulations), and
- Submission of the Final EIA report, following a public review period.

## 5.3. Developing a Strategy and Resolving Key Issues

A strategy for addressing and resolving key issues is to be developed and will include:

- Details on all assessments and investigations carried out;
- Use of the Public Participation Meetings to present the findings of the reports and test the acceptability of priority issues and mitigations;
- Openly and honestly relating both positive and negative impacts of the proposed development during the Public Meetings; and
- Allowing the public to understand the consequences of the proposed development on the area.

## 6. Specialist studies

The specialists will outline their proposed methodology and assumptions and sources of information will also be clearly identified. The knowledge of local people should be incorporated in the study. The description of the study approach shall include a short discussion of the appropriateness of the methods used in the specialist study in terms of local and international trends with respect to the specific practice. The following key components outlined below will form part of each specialist report.

### 6.1. Description of the Affected Environment

A description of the affected environment will be provided. The focus of this description must be relevant to the specialist's field of expertise. The specialist must provide an indication of the sensitivity of the affected environment. Sensitivity, in this context, refers to the "ability" of an affected environment to tolerate disturbance, for example, if disturbance of the natural habitat results in the permanent loss of its biodiversity. The affected environment could be categorised as having a "low tolerance" to disturbance and is, therefore, termed a highly sensitive habitat. If a habitat is able to withstand significant disturbance without a marked

impact on its biodiversity, the affected environment could be categorised as having a high tolerance to disturbance (i.e. “low sensitivity” habitat).

## 6.2. Impact Identification and Assessment

The specialist must make a clear statement, identifying the environmental impacts of the construction, operation and management of the proposed development. As far as possible, the specialist must classify the potential environmental impacts identified in the study and assess the significance of the impacts according to the criteria set out in below. Each impact will be assessed and rated as per the methodology described. The impact assessment will provide an evaluation of the significance of each of the three phases of the project (i.e. design, construction and operational and decommissioning and closure phases). The assessment of the data must, where possible be based on accepted scientific techniques, failing which the specialist must make informed judgements based on his/her professional expertise and experience.

## 6.3 Mitigation and Prevention Measures

Feasible, practical mitigation, impact prevention and project optimisation measures should be recommended in order to minimise negative impacts and to enhance the benefits of positive impacts. The mitigation measures should further address the following:

- Mitigation objectives- Level of mitigation being targeted

For each identified impact, the specialists must provide mitigation objectives, which would result in a measurable reduction of the impact. Where limited knowledge or expertise exists on such mitigation, the specialists must consult with other specialists on the team failing which the specialists must make a judgement call based on his/her professional experience.

- Recommended mitigation measures

For each impact the specialist must recommend practicable mitigation actions that can measurably affect the significance rating. The specialist must also identify management actions, which could enhance the condition of the environment. Where no mitigation is considered feasible, this must be stated and reasons provided.

- Effectiveness of mitigation measures



The specialist must provide quantifiable standards (performance criteria) for reviewing or tracking the effectiveness of the proposed mitigation actions, where possible, as this will be utilised when drafting the monitoring component of the EMP.

- Recommended monitoring and evaluation programme

The specialist is required to recommend an appropriate monitoring and auditing programme, which would be able to track the efficacy of the mitigation objectives. Each environmental impact will be assessed before and after mitigation measures are implemented in order to show how effective or ineffective will be. The management objectives, design standards etc., which, if achieved, can eliminate, minimise or enhance potential impacts or benefits must, wherever possible, be expressed as measurable targets. National standards or criteria are examples, which can be stated as mitigation objectives.

Once the above objectives are stated, feasible management actions, which can be applied as mitigation, must be provided. A duplicate column in the impact assessment tables should indicate how the application of the proposed mitigation or management actions has reduced the impact. If the proposed mitigation is of any consequence, it should result in a measurable reduction in impacts (or, where relevant, a measurable benefit).

The detailed specialist investigations and quantification of impacts identifies will be conducted. The findings of each field of study will be presented to stakeholders as well as Interested and Affected Parties. Further studies and assessments in the following areas of specialisation will be conducted (in addition to any studies required by the authorities):

- Heritage Impact Assessment report
- Ecological/ Biodiversity report
- Geotechnical report
- Engineering Services report

## **7. Methods of identifying alternatives**

The IEM procedure (Department of Environmental Affairs and Tourism) stipulates that the environmental investigation consider feasible alternatives for proposed developments. This means that for any development proposed there should at least be a number of possible proposal or alternatives for accomplishing the same objectives or meeting the same need. The developer should be encouraged to

consider alternatives that would meet the objective of the original proposal and which could have an acceptable impact on the environment.

It is important to note that identification of alternatives during the Scoping have taken the following forms:

- Site alternative;
- Design alternative;
- Planning alternative; and
- No-go alternative.

Site and design alternatives have been identified and will be further assessed against the No Go Alternative in the EIA phase. In addition, the potential environmental impacts associated with the proposed demarcation project will be investigated and evaluated in further detail within the EIA phase of the study.

## 8. Impact Assessment Methodology

The assessment of impacts will largely be based on the Department of Environmental Affairs and Tourism's (1998) Guideline Document: Environmental Impact Assessment Regulations. The assessment will consider impacts arising from the proposed activities of the project both before and after the implementation of appropriate mitigation measures.

The impacts will be assessed according to the criteria outlined in this section. Each issue is ranked according to extent, duration, magnitude (intensity) and probability. From these criteria, a significance rating is obtained, the method and formula is described below. Where possible, mitigation recommendations have been made and are presented in tabular form.

The criteria given in the tables below will be used to conduct the evaluation. The nature of each impact is to be assessed and described in relation to the extent, duration, intensity, significance and probability of occurrence attached to it.

Table 1: Methodology used in determining the significance of potential environmental impacts

Status of Impact
The impacts are assessed as either having a: negative effect (i.e. at a `cost' to the environment), positive effect (i.e. a `benefit' to the environment), or

Neutral effect on the environment.

Extent of the Impact

- (1) Site (site only),
- (2) Local (site boundary and immediate surrounds),
- (3) Regional (within the City of Johannesburg),
- (4) National, or
- (5) International.

Duration of the Impact

The length that the impact will last for is described as either:

- (1) immediate (<1 year)
- (2) short term (1-5 years),
- (3) medium term (5-15 years),
- (4) long term (ceases after the operational life span of the project),
- (5) Permanent.

Magnitude of the Impact

The intensity or severity of the impacts is indicated as either:

- (0) none,
- (2) Minor,
- (4) Low,
- (6) Moderate (environmental functions altered but continue),
- (8) High (environmental functions temporarily cease), or
- (10) Very high / Unsure (environmental functions permanently cease).

Probability of Occurrence

The likelihood of the impact actually occurring is indicated as either:

- (0) None (the impact will not occur),
- (1) improbable (probability very low due to design or experience)
- (2) low probability (unlikely to occur),
- (3) medium probability (distinct probability that the impact will occur),
- (4) high probability (most likely to occur), or
- (5) Definite.

Significance of the Impact

Based on the information contained in the points above, the potential impacts are assigned a significance rating

(S). This rating is formulated by adding the sum of the numbers assigned to extent (E), duration (D) and magnitude (M) and multiplying this sum by the probability (P) of the impact.

$$S=(E+D+M)P$$

The significance ratings are given below

(<30) low (i.e. where this impact would not have a direct influence on the decision to develop in the area),

(30-60) medium (i.e. where the impact could influence the decision to develop in the area unless it is effectively mitigated),

(>60) high (i.e. where the impact must have an influence on the decision process to develop in the area).

## 9. Collating available Information and Identifying Knowledge Gaps

Site specific data will be gathered through detailed site investigations. Information on any previous studies in the area will be collated and all available information evaluated to determine gaps in the data. The following methodology will be used to acquire completed specialists' reports (previous studies) and site-specific information to assist in the compilation of the Environmental Impact Report.

- Identifying sensitive areas, which may require in-depth studies /assistance from relevant specialists.
- Collecting data such as published literature and maps from government departments, the Geological Survey, general literature searches, Institutions and websites.
- Carrying out a literature review to source information relevant to the project.
- Scheduling work sessions to fully integrate and pull the knowledge and relevant expertise for the project.

The available data will then be reviewed and assessed to determine where additional information is required for the study. The end product of this task is a summary and draft EIR. The draft EIR will be placed on public review before a final report is prepared for submission to the relevant authorities.

### 9.1. Public Input

Comments and concerns from all stakeholders, interested and affected parties will be gathered, assessed and incorporated into the EIR. Public meetings and information sessions are to be organised where all concerns will be discussed and sound conclusions reached. Upon completion of the draft EIR, the document

is to be put out for public review for a period of 30 days. Further comments received will be addressed and incorporated into the final EIR that will be submitted to the authorities for decision making.

## 9.2. Environmental Impact Report and Environmental Management Programme

The final Environmental Impact Report will be submitted in hard copy and electronic version (CD) and will include the following:

- A brief description of the project;
- A brief description of the possible environmental (including socio-economic) impacts identified;
- An assessment in terms of the significance, probability, extent, duration and intensity of each impact

identified;

- A description of alternatives identified;
- A description of the public participation process undertaken;
- Conclusions and recommendations;
- Appendices i.e. all the supporting documents; and
- An Environmental Management Programme.

The EIR will be reviewed by the I&AP's, authorities and key stakeholders. The Report is to be submitted to:

- Collins Chabane Local Municipality
- South African Heritage Resource Agency
- Department of Water and Sanitation
- Department of Public Works and Roads
- Registered Interested and Affected Parties

## 10. Conclusion

Mang Geoenviro Services (Pty) Ltd recommends that the proposed project proceeds to the EIA phase. Mang Geoenviro Services (Pty) Ltd will ensure that the EIA phase of the project is compliant to the Regulation and is as comprehensive as possible. Furthermore, Mang Geoenviro Services (Pty) Ltd will ensure their independence throughout the project.