

# KINROSS EXTENSION 30 HOUSING DEVELOPMENT, MPUMALANGA

## DRAFT SCOPING REPORT

DEDET Ref No: 17/2/3/GS-225

March 2014



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## TITLE PAGE

*Project name:* **Proposed Kinross Extension 30 Housing Development Mpumalanga**

*Report Title:* **Draft Scoping Report for Proposed Kinross Extension 30 Housing Development Mpumalanga**

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## EXECUTIVE SUMMARY

### PROJECT DETAILS

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#### Description

The applicant proposes to provide basic services by providing human settlements. The chosen site is approximately 38 hectares in extent. The settlement will provide approximately 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads. Open space areas will be incorporated into the development as well.

#### Location

The proposed development is located in Kinross within the Govan Mbeki Local Municipality, Mpumalanga. The site is located within the property described as Portion 32 of the farm Zondagsfontein 124-IS and at the following co-ordinates: 26° 25' 01.93" S and 29° 5' 45.89" E.

### ALTERNATIVES

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Three alternative options have been considered for the proposed development:

**Alternative 1:** Construction of 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads This alternative will include open space areas and a space allocated for an educational facility.

**Alternative 2:** Construction of 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads This alternative will include open space areas and a space allocated for an educational facility. This alternative will include a change in the position of the mixed land use area in comparison to alternative 1.

**No-go Option:** The site will remain undeveloped. The need for formalised housing in the Kinross area will not be addressed. There is a potential risk that the site will be inundated with informal settlements.

### LEGISLATION AND GUIDELINES CONSIDERED

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The following legislation and guidelines as discussed in section 3 of the report is applicable to this project:

- National Environmental Management Act – EIA Regulations (2010)
- Environmental Conservation Act (Act 73 of 1989)
- National Environmental Management: Biodiversity Act (Act 10 of 2004)
- National Environmental Management: Protected Areas Act (Act 57 of 2003)
- National Forest Act (Act 84 of 1998)
- Mpumalanga Nature Conservation Act (Act 10 of 1998)
- Mpumalanga Tourism and Parks Agency Act (Act 5 of 2005)
- Mpumalanga Biodiversity Conservation Plan Handbook (2007)
- National Heritage Resources Act
- National Water Act
- Conservation of Agricultural Resources Act
- National Environmental Management: Air Quality Act (Act No 39 of 2004)
- National Road Traffic Act (Act 83 of 1996)
- The National Environmental Management: Waste Act (Act 59 of 2008)
- Regional Plans
- Energy Sector Strategic Documents

## **SCOPING AND EIA PROCESS**

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The Scoping and EIA process as set out in EIA Regulations of 2010 (GN No. R543 of 18 June 2010) has commenced. The application form was submitted to MDEDET on the 28 November 2013. Acknowledgement of receipt of the application form was provided on the 10 December 2013. The following reference number was then allocated to the project: 17/2/3 GS-225. The Scoping report was compiled and the public participation process then commenced, an outline of Scoping and EIA Process for the proposed housing development is provided in section 4.3.

## **THE RECEIVING ENVIRONMENT**

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The Draft Scoping Report provides a general regional and site description of the receiving environment, which allows for the identification of sensitive environmental features and the establishment of possible impacts which the proposed development could have on the receiving environment. Potential Specialist studies required were determined based on the findings of this section. The elements of the receiving environment which are addressed in this section include:

- Geology;
- Topography and Watercourse;
- Climate;
- Soils and Land Capability;
- Land Use;
- Flora;
- Fauna;
- Air Quality;
- Noise;
- Visual;
- Socio-Economic Environment;
- Infrastructure and Services; and
- Archaeological and Cultural Historical.

## **PUBLIC PARTICIPATION PROCESS**

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The public participation process that was followed for proposed project is governed by GN. R. 543 of 18 June 2010.

The purpose of public participation includes:

1. Providing I&APs with an opportunity to obtain information about the project;
2. Allowing I&APs to present their views, issues and concerns with regard to the project;
3. Granting I&APs an opportunity to recommend measures to avoid or reduce adverse impacts and enhance positive impacts associated with the project; and
4. Enabling the project team to incorporate the needs, concerns and recommendations of I&APs into the project.

The Public Participation Process detailed in section 6 included the following:

- Consultation and involvement of relevant Authorities at various levels;
- Consultation and involvement of the owners and occupiers of land adjacent to the properties earmarked for development by hand delivering Background Information Documents (BID's) to all owners and occupiers adjacent to the property earmarked for development;
- Consultation and involvement of the municipal ward councillors of the wards in which the properties earmarked for development are located;
- Consultation and involvement of the municipality which has jurisdiction in the area;
- Consultation and involvement of any organ of state having jurisdiction in respect of any aspect of the activity;

- Compilation and placing of advertisements in local and regional newspapers;
- Compilation and placing of site notices on the properties earmarked for development; and
- Hosting of a Public Meeting.

## **PLAN OF STUDY FOR EIA**

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The Draft Scoping Report is concluded with the Plan of Study for EIA, which explains the approach which will be followed to conduct the EIA Phase. The purpose of the EIA is to:

- Address issues that have been raised during the Scoping Phase;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance for each impact; and
- Formulate mitigation measures.

The EIA Phase will consist of the following activities:

- Stakeholder engagement;
- Assessment of alternatives;
- Specialist Studies;
- Interaction of project design and baseline environmental criteria;
- Identification of potential impacts;
- Impact Assessment;
- Identification and description of mitigation measures; and
- Reporting and decision making.

The Plan of Study for EIA is described in detail in Section 7 of this Report.

## TABLE OF CONTENTS

<b>TITLE PAGE</b> .....	<b>I</b>
<b>EXECUTIVE SUMMARY</b> .....	<b>II</b>
<b>TABLE OF CONTENTS</b> .....	<b>VI</b>
<b>LIST OF ACRONYMS</b> .....	<b>X</b>
<b>1 INTRODUCTION</b> .....	<b>11</b>
1.1 BACKGROUND AND MOTIVATION.....	11
1.2 NEED AND DESIRABILITY .....	11
1.3 PROJECT DETAILS.....	13
1.3.1 <i>Description</i> .....	13
1.3.2 <i>Location</i> .....	15
1.3.3 <i>Surrounding Land Uses</i> .....	15
1.3.4 <i>Access</i> .....	16
1.3.5 <i>Zoning</i> .....	16
1.3.6 <i>Ownership</i> .....	16
1.4 ALTERNATIVES.....	17
1.4.1 <i>Alternative 1</i> .....	17
1.4.2 <i>Alternative 2</i> .....	17
<b>2 ENVIRONMENTAL ASSESSMENT PRACTITIONER</b> .....	<b>19</b>
<b>3 LEGISLATION AND GUIDELINES CONSIDERED</b> .....	<b>20</b>
3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT .....	20
3.1.1 <i>Environmental Impact Assessment Regulations, 2010</i> .....	20
3.2 ENVIRONMENT CONSERVATION ACT (ACT 73 OF 1989).....	22
3.3 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT (ACT 10 OF 2004).....	22
3.4 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT 57 OF 2003) .....	23
3.5 NATIONAL FOREST ACT (ACT 84 OF 1998).....	23
3.6 MPUMALANGA NATURE CONSERVATION ACT (ACT 10 OF 1998) .....	23
3.7 MPUMALANGA TOURISM AND PARKS AGENCY ACT (ACT 5 OF 2005) .....	23
3.8 MPUMALANGA BIODIVERSITY CONSERVATION PLAN HANDBOOK (2007) .....	23
3.9 NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999) .....	24
3.10 NATIONAL WATER ACT (ACT 36 OF 1998).....	24
3.11 CONSERVATION OF AGRICULTURAL RESOURCES ACT (ACT 43 OF 1983) .....	25
3.12 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT (ACT No 39 OF 2004).....	25
3.13 NATIONAL ROAD TRAFFIC ACT (ACT 83 OF 1996).....	25
3.14 THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT 59 OF 2008) .....	26
3.15 REGIONAL PLANS.....	26
3.16 ENERGY SECTOR STRATEGIC DOCUMENTS.....	26
<b>4 SCOPING &amp; EIA PROCESS</b> .....	<b>28</b>
4.1 ENVIRONMENTAL ASSESSMENT TRIGGERS.....	28
4.2 ENVIRONMENTAL ASSESSMENT AUTHORITIES.....	28

4.3	SCOPING AND EIA ASSESSMENT PROCESS .....	28
<b>5</b>	<b>DESCRIPTION OF THE RECEIVING ENVIRONMENT .....</b>	<b>30</b>
5.1	GEOLOGY .....	30
5.1.1	<i>Description</i> .....	30
5.1.2	<i>Environmental Issues</i> .....	30
5.1.3	<i>Potential Impacts</i> .....	30
5.1.4	<i>Cumulative Impacts</i> .....	31
5.1.5	<i>Specialist Studies Required</i> .....	31
5.2	TOPOGRAPHY AND WATERCOURSES .....	31
5.2.1	<i>Description</i> .....	31
5.2.2	<i>Environmental Issues</i> .....	31
5.2.3	<i>Potential Impacts</i> .....	32
5.2.4	<i>Cumulative Impacts</i> .....	32
5.2.5	<i>Specialist Studies Required</i> .....	32
5.3	CLIMATE.....	32
5.3.1	<i>Description</i> .....	32
5.3.2	<i>Environmental Issues</i> .....	33
5.3.3	<i>Potential Impacts</i> .....	33
5.3.4	<i>Cumulative Impacts</i> .....	33
5.3.5	<i>Specialist Studies Required</i> .....	33
5.4	SOILS AND LAND CAPABILITY .....	33
5.4.1	<i>Description</i> .....	33
5.4.2	<i>Environmental Issues</i> .....	34
5.4.3	<i>Potential Impacts</i> .....	34
5.4.4	<i>Cumulative Impacts</i> .....	35
5.4.5	<i>Specialist Studies Required</i> .....	35
5.5	LAND USE.....	35
5.5.1	<i>Regional Description</i> .....	35
5.5.2	<i>Environmental Issues</i> .....	35
5.5.3	<i>Potential Impacts</i> .....	35
5.5.4	<i>Cumulative Impacts</i> .....	35
5.5.5	<i>Specialist Studies Required</i> .....	36
5.6	FLORA.....	36
5.6.1	<i>Regional Description</i> .....	36
5.6.2	<i>Environmental Issues</i> .....	37
5.6.3	<i>Potential Impacts</i> .....	37
5.6.4	<i>Cumulative Impacts</i> .....	37
5.6.5	<i>Specialist Studies Required</i> .....	37
5.7	FAUNA.....	38
5.7.1	<i>Regional Description</i> .....	38
	<i>Mammals</i> .....	38
	<i>Avifauna</i> .....	38
	<i>Reptiles</i> .....	39
5.7.2	<i>Environmental Issues</i> .....	39
5.7.3	<i>Potential Impacts</i> .....	39
5.7.4	<i>Cumulative Impacts</i> .....	40
5.7.5	<i>Specialist Studies Required</i> .....	40
5.8	AIR QUALITY .....	40



5.8.1	Regional Description.....	40
5.8.2	Environmental Issues.....	40
5.8.3	Potential Impacts.....	40
5.8.4	Cumulative Impacts.....	40
5.8.5	Specialist Studies Required.....	41
5.9	NOISE.....	41
5.9.1	Description.....	41
5.9.2	Environmental Issues.....	41
5.9.3	Potential Impacts.....	41
5.9.4	Cumulative Impacts.....	41
5.9.5	Specialist Studies Required.....	41
5.10	VISUAL.....	41
5.10.1	Area/Site Description.....	41
5.10.2	Environmental Issues.....	41
5.10.3	Potential Impacts.....	42
5.10.4	Cumulative Impacts.....	42
5.10.5	Specialist Studies Required.....	42
5.11	INFRASTRUCTURE AND SERVICES.....	42
5.11.1	Description.....	42
5.11.2	Environmental Issues.....	42
5.11.3	Potential Impacts.....	42
5.11.4	Cumulative Impacts.....	43
5.11.5	Specialist Studies Required.....	43
5.12	SOCIO-ECONOMIC ENVIRONMENT.....	43
5.12.1	Description.....	43
5.12.2	Social Issues.....	44
5.12.3	Potential Impacts.....	44
5.12.4	Cumulative Impacts.....	44
5.12.5	Specialist Studies Required.....	44
5.13	ARCHAEOLOGY AND CULTURAL HISTORICAL.....	44
5.13.1	Description.....	44
5.13.2	Environmental Issues.....	44
5.13.3	Potential Impacts.....	45
5.13.4	Cumulative Impacts.....	45
5.13.5	Specialist Studies Required.....	45
<b>6</b>	<b>PUBLIC PARTICIPATION PROCESS.....</b>	<b>46</b>
6.1	PUBLIC PARTICIPATION.....	46
6.2	NOTIFICATION OF I & APS.....	46
6.3	DISTRIBUTION OF SCOPING REPORT.....	47
6.4	ISSUES AND CONCERNS RAISED.....	48
<b>7</b>	<b>PLAN OF STUDY FOR EIA.....</b>	<b>48</b>
7.1	STAKEHOLDER ENGAGEMENT DURING THE EIA.....	48
7.2	CRITERIA FOR ASSESSING ENVIRONMENTAL ISSUES, ALTERNATIVES AND NO-GO'S.....	49
7.3	SPECIALIST STUDIES.....	50
7.4	ENVIRONMENTAL IMPACT ASSESSMENT.....	50
7.4.1	Significance Assessment.....	51
7.4.2	Spatial Scale.....	52

7.4.3	Temporal Scale.....	53
7.4.4	Degree of Probability.....	53
7.4.5	Degree of Certainty.....	53
7.4.6	Quantitative Description of Impacts.....	54
7.4.7	Notation of Impacts.....	54
7.5	EIA REPORT.....	55
7.6	ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR).....	55
7.7	EIA TIMEFRAMES.....	57
<b>8</b>	<b>ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE.....</b>	<b>58</b>

## LIST OF TABLES

TABLE 1: NEED AND DESIRABILITY OF THE PROJECT.....	11
TABLE 2: BASIC ASSESSMENT TEAM MEMBERS.....	19
TABLE 3: LIST OF ACTIVITIES APPLICABLE TO THE PROPOSED HOUSING DEVELOPMENT.....	20
TABLE 4: FLORAL SPECIES OF CONSERVATIONAL SIGNIFICANCE RECORDED FROM THE QDS OF 2629AC (SANBI DATA).....	36
TABLE 5: FARM NAMES WHERE THE RED DATA PLANT SPECIES WERE RECORDED, WHICH COULD POTENTIALLY OCCUR IN THE STUDY AREA (MTPA DATA).....	36
TABLE 6: DEFINITIONS OF RELEVANT RED DATA STATUS (RAIMONDO <i>ET AL.</i> 1999).....	36
TABLE 7: RED LISTED BIRD SPECIES WHICH COULD POTENTIALLY OCCUR IN THE PROPOSED DEVELOPMENT SITE (MTPA).....	38
TABLE 8: SPECIALIST STUDIES TO BE UNDERTAKEN DURING THE DETAILED EIA PHASE.....	50
TABLE 9: QUANTITATIVE RATING AND EQUIVALENT DESCRIPTORS FOR EACH OF THE IMPACT ASSESSMENT CRITERIA.....	51
TABLE 10: DESCRIPTION OF THE SIGNIFICANCE RATING SCALE.....	51
TABLE 11: DESCRIPTION OF THE SPATIAL SCALE.....	52
TABLE 12: DESCRIPTION OF THE TEMPORAL RATING SCALE.....	53
TABLE 13: DESCRIPTION OF THE DEGREE OF PROBABILITY OF AN IMPACT ACCRUING.....	53
TABLE 14: DESCRIPTION OF THE DEGREE OF CERTAINTY RATING SCALE.....	53
TABLE 15: IMPACT RISK CLASSES.....	54
TABLE 16: EIA TIMEFRAMES.....	57

## LIST OF FIGURES

FIGURE 1: MAP SHOWING THE PROPOSED HOUSING DEVELOPMENT IN KINROSS (SOURCE: VBH PLANNING, 2014).....	14
FIGURE 2: GOOGLE EARTH IMAGE SHOWING THE LOCATION OF THE PROPOSED KINROSS DEVELOPMENT (IN PINK).....	15
FIGURE 3: MAP SHOWING SURROUNDING LAND USES.....	16
FIGURE 4: MAP SHOWING THE PROPOSED LAYOUT FOR ALTERNATIVE 2.....	17
FIGURE 5: MAP SHOWING AGRICULTURAL POTENTIAL OF THE SITE.....	34

## LIST OF APPENDICES

APPENDIX 1: TOPOGRAPHICAL MAPS AND SITE LAYOUT.....	59
APPENDIX 2: EAP'S CURRICULUM VITAE'S.....	60
APPENDIX 3: PUBLIC PARTICIPATION DOCUMENTATION.....	61

## LIST OF ACRONYMS

<b>BID</b>	Background Information Document
<b>°C</b>	Degrees Celsius
<b>DWA</b>	Department of Water Affairs
<b>EAP</b>	Environmental Assessment Practitioner
<b>EIA</b>	Environmental Impact Assessment
<b>EMPr</b>	Environmental Management Programme
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare
<b>I &amp; AP</b>	Interested and Affected Party
<b>MDEDET</b>	Mpumalanga Department of Economic Development, Environment and Tourism
<b>NEMA</b>	National Environmental Management Act (No. 107 of 1998)
<b>SANBI</b>	South African National Biodiversity Institute
<b>WMA</b>	Water Management Area

# 1 INTRODUCTION

## 1.1 Background and Motivation

Nemai Consulting C.C. was appointed by VBH Town Planning to apply for the environmental authorisation for a proposed new housing development, in Kinross on behalf of the Govan Mbeki Local Municipality. This document serves as the Scoping Report for the aforementioned project.

The purpose of the proposed new development is to improve the living conditions of the residents of the area, to curb the further extension of informal settlements into sensitive natural areas. The new development will include housing units, open space areas and a site dedicated for educational / institutional purposes. The proposed development within these areas will constitute at least 100 new units- effectively and suitably addressing the need to accommodate growth in this area. The development of this scale will contribute to the overall improvement of the Kinross area.

## 1.2 Need and Desirability

In terms of Regulation 22(2)g of GN No. R543 (18 June 2012), this section discusses the need and desirability of the project. In order to address the need and desirability of the project, the questions raised in the Guideline on Need and Desirability (DEA&DP, 2009) are answered in the table to follow.

**Table 1: Need and Desirability of the Project**

No.	Question	Response
<b>NEED ('timing')</b>		
1.	Is the land use (associated with the activity being applied for) considered within the timeframe intended by the existing approved Spatial Development Framework (SDF) agreed to by the relevant environmental authority? (i.e. is the proposed development in line with the projects and programmes identified as priorities within the IDP).	Yes, this area falls within the urban conglomerations situated within it, namely the Greater Secunda area.

No.	Question	Response
2.	Should development, or if applicable, expansion of the town/area concerned in terms of this land use (associated with the activity being applied for) occur here at this point in time?	Yes. All relevant applications will be submitted to the municipality.
3.	Does the community/area need the activity and the associated land use concerned (is it a societal priority)? This refers to the strategic as well as local level (e.g. development is a national priority, but within a specific local context it could be inappropriate)	Yes, there is an urgent need for formal housing and is therefore this project is a societal priority.
4.	Are the necessary services with appropriate capacity currently available (at the time of application), or must additional capacity be created to cater for the development?	The Govan Mbeki Municipality will provide the relevant services. A letter of confirmation for the provision of services will be obtained and included in the EIR.
5.	Is this development provided for in the infrastructure planning of the municipality, and if not what will the implication be on the infrastructure planning of the municipality (priority and placement of services)?	Yes
6.	Is this project part of a national programme to address an issue of national concern or importance?	Yes, there is an urgent need to address housing and provide basic services to communities around South Africa.
<b>DESIRABILITY ('placing')</b>		
7.	Is the development the best practicable environmental option (BPEO) for this land/site?	Yes.
8.	Would the approval of this application compromise the integrity of the existing approved municipal IDP and SDF as agreed to by the relevant authorities?	No.
9.	Would the approval of this application compromise the integrity of the existing environmental management priorities for the area (e.g. as defined in Environmental Management Frameworks), and if so, can it be justified in terms of sustainability considerations?	No. This site is located within an urban area and will not compromise the integrity of any existing environmental priorities.

No.	Question	Response
10.	Do location factors favour this land use (associated with the activity applied for) at this place? (this relates to the contextualisation of the proposed land use on this site within its broader context).	Yes, the site is surrounded by residential properties to the east and west, this development will extend the residential boundary.
11.	How will the activity or the land use associated with the activity applied for, impact on sensitive natural and cultural areas (built and rural/natural environment)?	There will be an impact on the open space areas in terms of fauna and flora and on the watercourse. The relevant specialist studies will be undertaken to determine what the potential impacts are. This will be included in the EIR for review.
12.	How will the development impact on people's health and wellbeing (e.g. i.t.o. noise, odours, visual character and sense of place, etc)?	Potential impacts during construction phase to be managed through EMPr.
13	Will the proposed activity or the land use associated with the activity applied for, result in unacceptable opportunity costs?	No
14	Will the proposed land use result in unacceptable cumulative impacts?	No.

The proposed project is to address and urgent need for housing and the provision of basic services in the Kinross area.

## 1.3 Project Details

### 1.3.1 Description

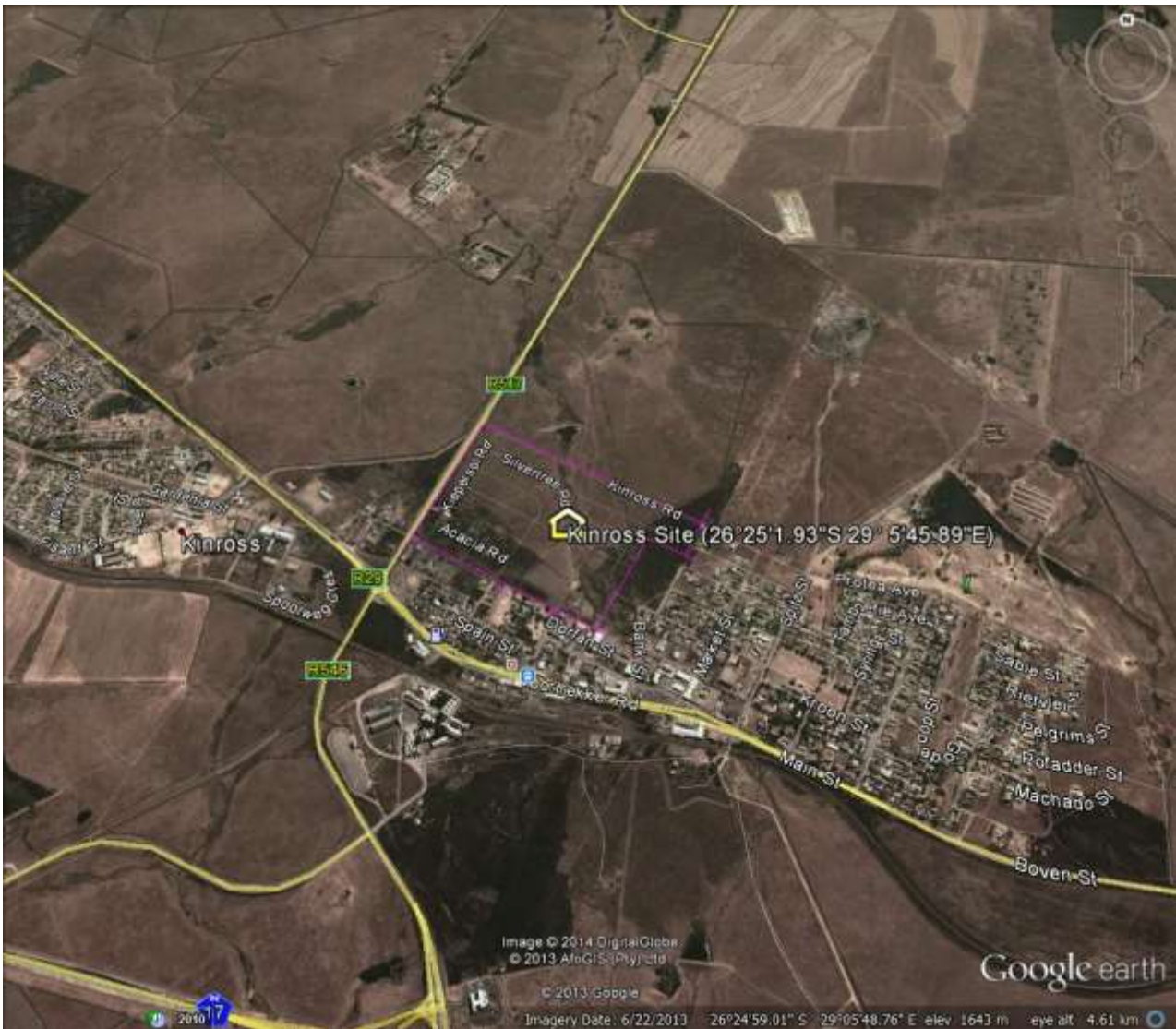
The applicant proposes to provide basic services by providing human settlements. The chosen site is approximately 38 hectares in extent. The settlement will provide approximately 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads. Open space areas will be incorporated into the development as well. The proposed township will be a mix of subsidy and bonded housing.



Figure 1: Map showing the proposed housing development in Kinross (Source: VBH Planning, 2014)

### 1.3.2 Location

The proposed development is located in Kinross within the Govan Mbeki Local Municipality, Mpumalanga. The site is located within the property described as Portion 32 of the farm Zondagsfontein 124-IS and at the following co-ordinates: 26° 25' 01.93" S and 29° 5' 45.89" E.



**Figure 2: Google Earth image showing the location of the proposed Kinross development (in pink)**

### 1.3.3 Surrounding Land Uses

The proposed site is surrounded mainly by residential properties and vast open space areas within a 500m radius (Figure 3). There are commercial / industrial properties located to the south and south west of the site.





**Figure 3: Map showing surrounding land uses**

#### 1.3.4 Access

Kinross is located north of R29 and to the east of R547. The new housing development can be accessed from Louis du Preez Drive and from Manuel Street.

#### 1.3.5 Zoning

The site is currently vacant and will be zoned for Residential, General Mixed Use, Educational and Public Open Space.

#### 1.3.6 Ownership

The site is owned by the Govan Mbeki Municipality.

## 1.4 Alternatives

### 1.4.1 Alternative 1

The applicant proposes to provide basic services by providing human settlements. The chosen site is approximately 38 hectares in extent. The settlement will provide approximately 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads (Figure 1, Appendix 1). Open space areas will be incorporated into the development as well. The proposed township will be a mix of subsidy and bonded housing.

### 1.4.2 Alternative 2

For alternative 2, the applicant proposes to provide basic services by providing human settlements. The chosen site is approximately 38 hectares in extent. The settlement will provide approximately 1000 housing units to the lower to middle income earners and will also include services i.e. access to potable water, connection to the municipal sewerage system, electricity and tarred access roads (Figure 2, Appendix 1). Open space areas will be incorporated into the development as well. This alternative will include a change in the location of the mixed use area within the proposed site.

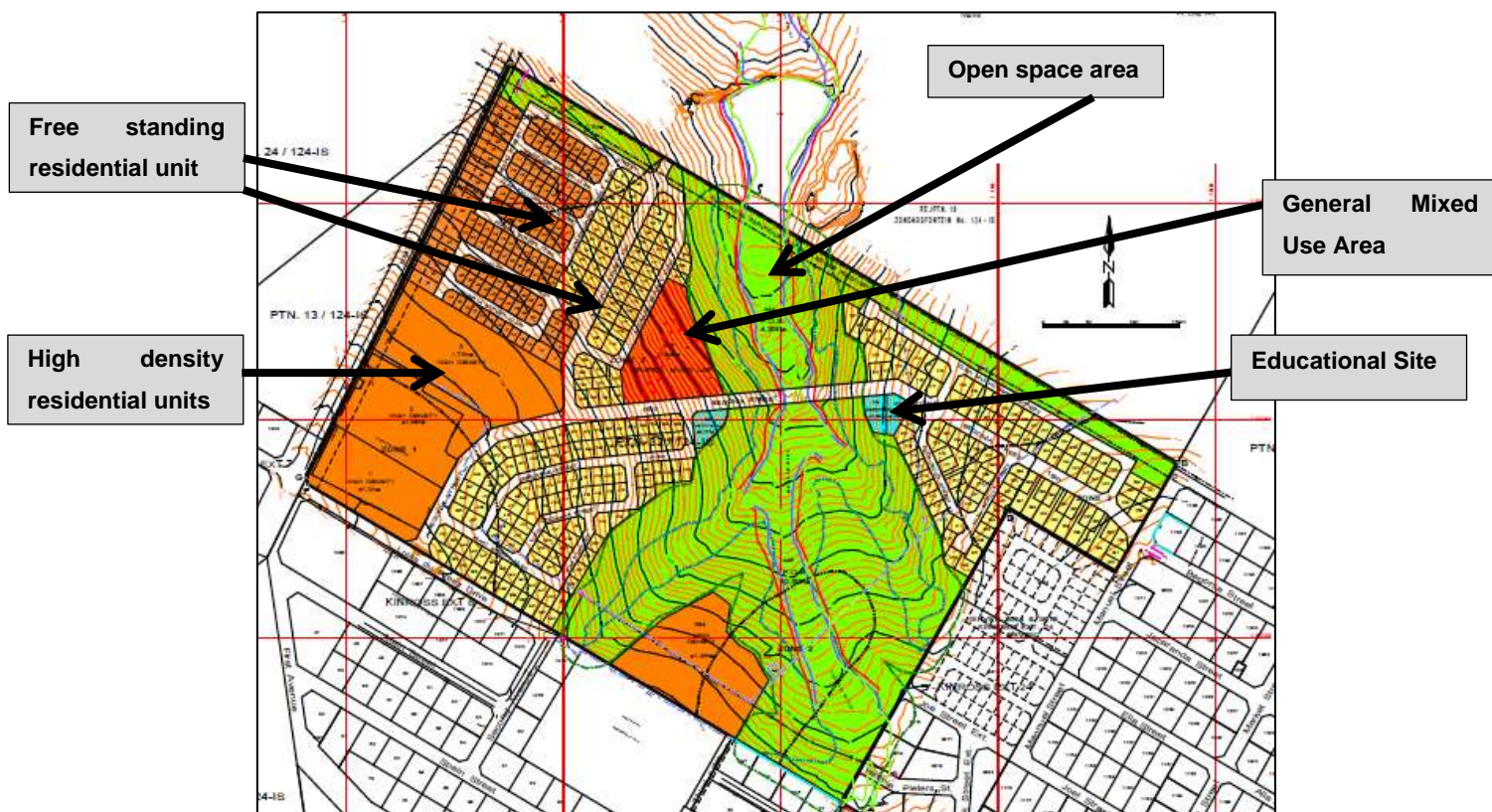


Figure 4: Map showing the proposed layout for alternative 2

1.4.2.1 No-Go Option

The site will remain undeveloped. The need for formalised housing in the Kinross area will not be addressed. There is a potential risk that the site will be inundated with informal settlements.

## 2 ENVIRONMENTAL ASSESSMENT PRACTITIONER

Nemai Consulting was appointed by VBH on behalf of the Govan Mbeki Municipality as the independent Environmental Assessment Practitioner (EAP) to undertake the environmental authorisation process (described in Section 4 below) for the proposed housing development.

In accordance with Regulation 22 (2) a of GN No. R. 543 of 18 June 2012, this section provides an overview of Nemai Consulting and the company's experience with EIAs, as well as the details and experience of the EAPs that form part of the Scoping and EIA team.

Nemai Consulting is an independent, specialist environmental, social development and Occupational Health and Safety (OHS) consultancy, which was founded in December 1999. The company is directed by a team of experienced and capable environmental engineers, scientists, ecologists, sociologists, economists and analysts. The company has offices in Randburg (Gauteng), Rustenburg (North West Province), and Durban (KwaZulu Natal).

Team members of Nemai Consulting that are involved with this Scoping and EIA process are captured in Table 1 below, and their respective Curricula Vitae are contained in to *Appendix 2*.

**Table 2: Basic Assessment Team Members**

Name	Qualifications	Experience	Duties
Mr C. Chidley	<ul style="list-style-type: none"> <li>B.Sc Eng (Civil);</li> <li>BA (Economics, Philosophy)</li> <li>MBA</li> </ul>	20 years	Quality Reviewer
Ms V Brueton	<ul style="list-style-type: none"> <li>MSc Zoology</li> </ul>	2 years	EAP
Ms M. Chetty	<ul style="list-style-type: none"> <li>B.Sc Honours Biological Science</li> </ul>	5 years	EAP

### 3 LEGISLATION AND GUIDELINES CONSIDERED

This Scoping and EIA process will be undertaken in terms of the National Environmental Management Act: Environmental Impact Assessment (EIA) Regulations of 2010, promulgated on the 18<sup>th</sup> June 2010 and which came into effect on the 2<sup>nd</sup> August 2012. The legislation that has possible bearing on the proposed housing development is captured in Section 3.1 below.

#### 3.1 National Environmental Management Act

The purpose of this Act is to provide 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 co-ordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.

##### 3.1.1 Environmental Impact Assessment Regulations, 2010

The Environmental Impact Assessment (EIA) Regulations, 2010, promulgated in terms of Section 24(5) of the National Environmental Management Act ([NEMA], Act 107 of 1998) are divided into three Schedules, R 544, R 545 and R 546.

Schedule R544 defines activities which will trigger the need for a Basic Assessment and R 545 defines activities which trigger an Environmental Impact Assessment (EIA) process. If activities from both schedules are triggered, then an EIA process will be required. Regulation 546 defines certain additional listed activities per province for which a Basic Assessment would be required.

Listed activities from these Regulations which will be triggered as part of the proposed powerline project are provided in the table below.

**Table 3: List of activities applicable to the proposed housing development**

Relevant Government Notice	Activity	Description	Applicability to Project
544, 18 June 2010	9	The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water - i. with an internal diameter of 0,36 metres	The proposed housing development will entail the construction of pipelines for the provision of potable water and will also include the

Relevant Government Notice	Activity	Description	Applicability to Project
		<p>or more; or</p> <p>ii. with a peak throughput of 120 litres per second or more, excluding where:</p> <p>a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or</p>	associated stormwater and sewer infrastructure.
544, 18 June 2010	11	<p>The construction of:</p> <p>(xi) infrastructure or structures covering 50 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.</p>	A road will be constructed across the watercourse.
544, 18 June 2010	18	<p>The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:</p> <p>(i) a watercourse;</p> <p>excluding where such infilling, depositing, dredging, excavation, removal or moving;</p> <p>(a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or</p> <p>(b) occurs behind the development setback line.</p>	During the construction process, sand / stone may be removed or brought into the watercourse and will be more than 5 cubic metres.
544, 18 June 2012	22	<p>The Construction of a road, outside urban areas,</p> <p>i. with a reserve wider than 13,5 meters or,</p> <p>ii. where no reserve exists where the road is wider than 8 metres.</p>	The new development will also entail the construction of new access roads.
545, 18 June 2012	15	Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use	The size of the land which is being assessed is approximately 50 hectares.

Relevant Government Notice	Activity	Description	Applicability to Project
		where the total area to be transformed is 20 hectares or more; except where such physical alteration takes place for: i. linear development activities; or	
546, 18 June 2012	14	The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for: (3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010.	The proposed development will entail the removal of vegetation, it is anticipated that a vast amount of indigenous vegetation will need to be removed to accommodate for the proposed development.

In terms of the EIA Regulations of 2010, a Scoping and Environmental Impact Assessment Process is required for the proposed township development.

### 3.2 Environment Conservation Act (Act 73 of 1989)

The purpose of this Act is to provide for the effective protection and controlled utilisation of the environment and for matters incidental thereto. The following relevant Sections of this Act are relevant:

- Sections 2-3 (Part I): Policy for Environmental Conservation;
- Sections 16-18 (Part III): Protection of Natural Environment;
- Sections 19-20 (Part IV): Control of Environmental Pollution; and
- Section 21-23 (Part V): Control of Activities which may have a Detrimental Effect on the Environment

### 3.3 National Environmental Management: Biodiversity Act (Act 10 of 2004)

The National Environmental Management: Biodiversity Act (NEMBA) provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; and provides for and includes:

- The protection of species and ecosystems that warrant national protection;
- The sustainable use of indigenous biological resources;
- The fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources;

- The establishment and functions of a South African National Biodiversity Institute; and for matters connected therewith.

### **3.4 National Environmental Management: Protected Areas Act (Act 57 of 2003)**

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Where any construction activities or upgrading activities may impact on protected areas cognisance must be taken of the requirements as outlined in the NEMA: Protected Areas Act (Act 57, 2003)

### **3.5 National Forest Act (Act 84 of 1998)**

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In terms of The National Forests Act (Act 84, 1998), trees in natural forests or protected tree species (as listed in Government Gazette Notice 1012 of 27 August 2004) may not be cut, disturbed, damaged, destroyed and their products may not be possessed, collected, removed, transported, exported, donated, purchased or sold - except under licence granted by the Department of Agriculture, Forestry and Fisheries.

### **3.6 Mpumalanga Nature Conservation Act (Act 10 of 1998)**

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The purpose of this act is to consolidate and amend the laws relating to nature conservation within the province and to provide for matters contained in the Act.

### **3.7 Mpumalanga Tourism and Parks Agency Act (Act 5 of 2005)**

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This act has the specific mandate to promote and sustainably manage tourism and nature conservation and provide for the sustainable use of natural resources.

### **3.8 Mpumalanga Biodiversity Conservation Plan Handbook (2007)**

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The MBCP takes its mandate from the South African Constitution, the National Biodiversity Act (10 of 2004) and the MTPA Act 10 of 1998. These and other statutes require the state to provide for a conserved and healthy environment that supports sustainable development and is safe and healthy for all citizens.

Its specific objectives are:

1. To guide the MTPA in implementing its biodiversity mandate, including working with landowners to improve the provincial protected area network.



2. To provide biodiversity information that supports land-use planning and helps to streamline and monitor environmental decision-making.

### **3.9 National Heritage Resources Act (Act 25 of 1999)**

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In terms of Section 38 of the Heritage Resources Act (Act No 25 of 1999), a Heritage Impact Assessment has to be undertaken for the following developments:

- Any development or other activity which will change the character of a site
  - Exceeding 5 000 m<sup>2</sup> in extent; or
  - Involving three or more existing erven or subdivisions thereof; or
  - Involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- The re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
- Any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

### **3.10 National Water Act (Act 36 of 1998)**

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The National Water Act ([NWA] Act 36, 1998) identifies 11 consumptive and non-consumptive water uses which must be authorised under a tiered authorisation system. Section 27 of the NWA specifies that the following factors regarding water use authorisation must be taken into consideration:

- The efficient and beneficial use of water in the public interest;
- The socio-economic impact of the decision whether or not to issue a licence;
- Alignment with the catchment management strategy;
- The impact of the water use, resource directed measures; and
- Investments made by the applicant in respect of the water use in question.

Section 21 of the National Water Act identifies listed activities for which a Water use License should be obtained. The Section 21 listed activities include:

- (a) Taking water from a water resource;

- (b) Storing water;
- (c) Impeding or diverting the flow of water in a water course;
- (d) Engaging in a stream flow reduction activity contemplated in Section 36;
- (e) Engaging in a controlled activity identified as such in section 37(1) or declared under Section 38(1);
- (f) Discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit;
- (g) Disposing of waste in a manner which may detrimentally impact on a water resource;
- (h) Disposing in any manner which contains waste from, or which has been heated in any industrial or power generation process;
- (i) Altering the bed, banks, course or characteristics of a watercourse;
- (j) Removing, discharging, or disposing of waste found underground if it is necessary for the efficient continuation of an activity or for the safety of people; and
- (k) Using waste for recreational purposes.

### **3.11 Conservation of Agricultural Resources Act (Act 43 of 1983)**

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The Conservation of Agricultural Resources Act ([CARA] Act 43, 1983) provides for the:

- Protection of wetlands; and
- Requires the removal of listed alien invasive species.

The National Department of Agriculture is the responsible authority for enforcing the CARA. This Act also requires that any declared invader species on the proposed site must be controlled according to their declared invader status. The Environmental Management Programme (EMPr), which will be included within the Environmental Impact Report (EIR), will include the compulsory removal of invader plants from the construction area. The rehabilitation of the construction site must use indigenous plants.

### **3.12 National Environmental Management: Air Quality Act (Act No 39 of 2004)**

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The National Air Quality Act 39 of 2004 was promulgated but only enacted in September 2005. However, some sections of the Atmospheric Pollution Prevention Act (APPA) of 1965 are still valid and implemented and enforced by DEA and more specifically, the Chief Air Pollution Control Officer or CAPCO.

### **3.13 National Road Traffic Act (Act 83 of 1996)**

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This Act is relevant if the applicant intends to transport, load, off-load or package dangerous goods as listed in SANAS Code of Practice 10228.

### **3.14 The National Environmental Management: Waste Act (Act 59 of 2008)**

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The National Environmental Management: Waste Act, 2008 (Act No. 58 of 2008) (the Waste Act), came into operation on the 1<sup>st</sup> of July 2009. The Waste Act repealed Section 20 of the Environment Conservation Act, 1989 (Act No. 73 of 1989) (ECA) and introduced new provisions regarding the licensing of waste management activities. In terms of the Waste Act the Minister may publish a list of waste management activities that have, or are likely to have, a detrimental effect on the environment.

In terms of the Waste Act no person may commence, undertake or conduct a waste management activity except in accordance with:

- The requirements or standards determined in terms of the Waste Act for that activity; and
- A waste management license issued in respect of that activity, if a license is required.

A list of waste management activities was published on the 3<sup>rd</sup> of July 2009. This list of activities identifies activities that may not be commenced, undertaken or conducted by any person unless a waste management licence is issued in respect of that activity. The list of activities is divided into two Categories. A person who wished to commence, undertake or conduct, an activity listed under Category A, must conduct a Basic Assessment process, and a person who wished to commence, undertake or conduct an activity listed under Category B, must conduct a Scoping and EIA process, as stipulated in the EIA Regulations made under NEMA, as part of a waste management licence application in terms of the Waste Act.

### **3.15 Regional Plans**

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The following regional plans will be considered during the execution of the EIA:

- Spatial Development Frameworks(where available);
- Integrated Development Plans;
- Relevant provincial, district and local policies and strategies.

### **3.16 Energy Sector Strategic Documents**

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The EIA will further consider Energy Sector Strategic Documents, including the following:

- White Paper on the Energy Policy of the Republic of South Africa (December 1998);
- Integrated Energy Plan;
- Integrated Strategic Electricity Planning (ISEP);
- Electricity Regulation Act (Act 4 of 2006) as amended;
- National Electricity Response Plan (NERP) (2008);

- National Guidelines on Environmental Impact Assessment for facilities to be included in the Electricity Response Plan (2008); and
- Environmental Impact Assessment Guidelines for transmission lines within the Southern African Power Pool Region (1999).

## 4 SCOPING & EIA PROCESS

### 4.1 Environmental Assessment Triggers

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As noted in Section 3, the project entails certain activities that require authorisation in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA).

The EIA – Scoping and EIA Process is being undertaken in accordance with the EIA Regulations of 2010 (GN No. R543 of 18 June 2010). Table 2 lists (amongst others) the associated relevant activities that apply to the proposed project in terms of GN No. R544, 545 and 546 of 18 June 2010.

### 4.2 Environmental Assessment Authorities

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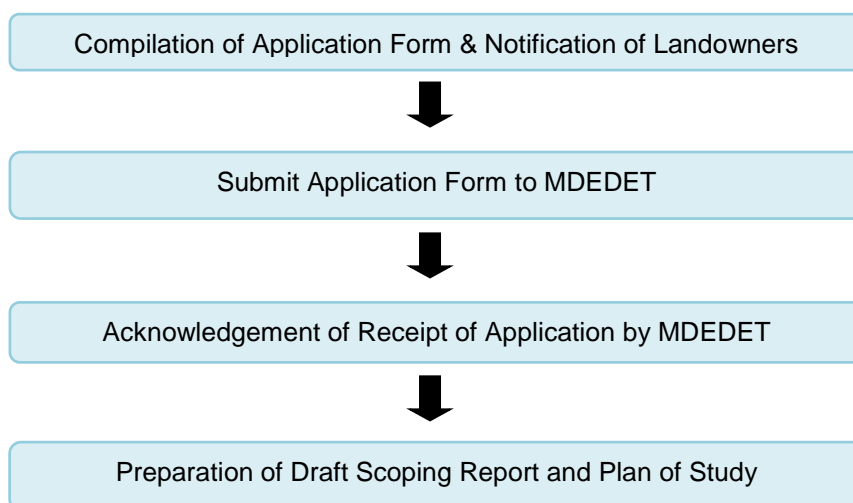
The EIA decision-making authority for this project is the Mpumalanga Department of Economic Development, Environment and Tourism (MDEDET).

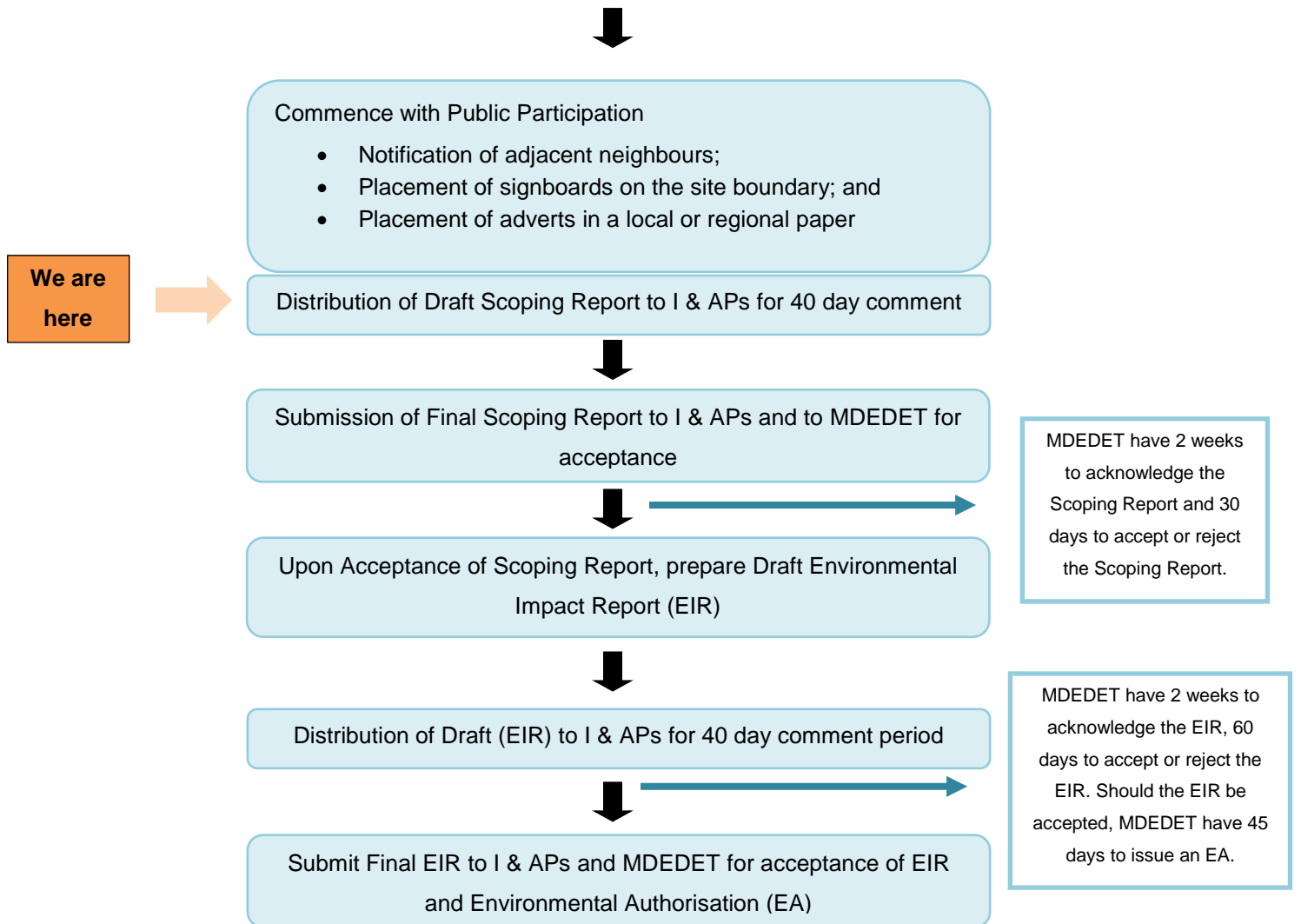
### 4.3 Scoping and EIA Assessment Process

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The Scoping and EIA process as set out in EIA Regulations of 2010 (GN No. R543 of 18 June 2010) has commenced. The application form was submitted to MDEDET on the 28 November 2013. Acknowledgement of receipt of the application form was provided on the 10 December 2013. The following reference number was then allocated to the project: 17/2/3 GS-225.

The Scoping report was compiled and the public participation process then commenced, an outline of Scoping and EIA Process for the proposed housing development is provided below:





Once the Environmental Authorisation (EA) has been issued, the applicant / EAP must notify all registered I & APs of the decision and this must be done within 12 days of receipt of the EA and provide them with the details should they wish to appeal the decision as per the EA.

## 5 DESCRIPTION OF THE RECEIVING ENVIRONMENT

Details on the baseline receiving environment in which this project occurs and associated environmental issues are addressed in this section. Possible impacts on the receiving environment which may occur as a result of this proposed project are also addressed in this section. The potential impacts identified during the Scoping Phase will be assessed during the EIA Phase to determine the significance of these impacts and potential mitigation measures will be provided to avoid the impact, or to minimise the impact. Potential rehabilitation measures will also be provided for impacts which cannot be avoided. All mitigation and rehabilitation measures will be incorporated into the EMPr which should be implemented during the construction, operational and decommissioning phases of the proposed project.

### 5.1 Geology

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#### 5.1.1 Description

Shale, sandstone or mudstone of the Madzaringwe Formation (Karoo Supergroup) or the intrusive Karoo Suite dolerites which feature prominently in the area. In the south, the Volksrust Formation (Karoo Supergroup) is found and in the west, the rocks of the older Transvaal, Ventersdorp and Wiatersrand Supergroups are the most significant. Soils are deep, reddish on flat plains. (Mucina and Rutherford, 2006)

#### 5.1.2 Environmental Issues

The geology which underlies the study sites as mentioned in Section 5.1.1 above is considered to be stable and therefore no significant environmental issues with regards to geology is anticipated to occur within the study area.

#### 5.1.3 Potential Impacts

During the construction phase blasting and earthmoving may be required. Blasting may lead to severe disturbance of the geological substrate, however, the geology in the study area is considered to be stable and impact could be minimal.

There is also potential for contamination to occur through:

- Inadequate management of waste water
- Inadequate waste disposal
- Incorrect storage of materials
- Fuel storage and refueling spillages
- Chemical, oil and paint spillages

Furthermore, construction activities on steeper areas may result in erosion and instability.

#### 5.1.4 Cumulative Impacts

None expected, but will be investigated during the EIA phase.

#### 5.1.5 Specialist Studies Required

Geological and Geotechnical Studies will be undertaken during the EIA phase for this proposed project, and the findings of this Report will be incorporated into the Draft and Final EIA Reports.

##### 5.1.5.1 Engineering Designs and Specifications

The Geological and Geotechnical Studies will determine the most feasible areas within the proposed for development and will provide details regarding the stability of the geology on site, the soil depth, the water table and whether de-watering will be required. Based on the findings of the Geological and Geotechnical investigations, special measures for construction purposes will be determined and will be included in the Final Geological and Geotechnical Assessment Report. These special measures will be considered during the final designs for the proposed housing development.

## 5.2 Topography and Watercourses

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### 5.2.1 Description

Most of the site is flat, and slopes gently towards the watercourse which runs through the site. The general direction of drainage and groundwater flow in the vicinity of the site is towards unnamed tributary of the Dwars-in-die-wegspruit River which traverses the subject property

No wetlands are indicated within the subject property; however, wetland features are indicated for the area surrounding the subject property, the nearest of which is approximately 120m to the north of the subject property. Wetlands surrounding the subject property are indicated as bench, slope and valley floor features which range from being in a good , natural condition (wetland feature to the north west of the subject property) to a heavily to critically modified condition (SAS, 2013).

### 5.2.2 Environmental Issues

The topography of the site will change with the proposed development, a stormwater management plan must be prepared and included in the EIR for review.



### 5.2.3 Potential Impacts

The construction of the proposed development, as well as the construction of access roads will result in the alteration of surface topography and drainage patterns.

During the construction phase impacts to surface topography and drainage will be caused by the excavation and stockpiling of insitu soils on surface. During the operational phase surface infrastructure will result in the alteration of surface topographic flow patterns as well as the concentration of surface water flow over hard surfaces such as roofs and tarred or concrete surfaces.

### 5.2.4 Cumulative Impacts

There will be no substantive increase to topographic impacts when compared to the existing level of impact in the surrounding area, and therefore no cumulative impact is expected.

### 5.2.5 Specialist Studies Required

A Stormwater Management Plan will be compiled as part of the engineering services which will provide amongst others, specifications for the channelling of stormwater during the construction and operational phases of the proposed housing development. A Wetland Impact Assessment will be undertaken which will ensure the protection of the watercourses identified within the site. No further specialist studies are recommended at this stage.

## 5.3 **Climate**

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### 5.3.1 Description

The Municipality is situated in a subtropical climate zone, where rainfall occurs in the summer months between September and May. Throughout the region, 95% of the rainfall is received during the summer six months, October to March, but the month of 12 maximum precipitation is either January or February. The western portions of the municipality can receive between 600-800mm/year and the eastern portion can receive between 800-1000mm/year.

In summer, temperatures range from as high as 40 degree Celsius during the day to 10 degree Celsius in the evenings. Winters are milder and temperatures usually vary between 20 degrees Celsius during the day and 10 degree Celsius in the evenings. Frost does occur, but apart from light frost which may occur from May to August, the period during which ordinary frosts may be expected is less than 30 days per year. (Govan Mbeki IDP, 2012)

Kinross normally receives about 563mm of rain per year, with most rainfall occurring during summer. Kinross receives the lowest rainfall (0mm) in June and the highest (104mm) in January. The monthly distribution of average daily maximum temperatures shows that the average midday temperatures for Kinross range from 16.4°C in June to 25.6°C in January. The region is the coldest during July when the mercury drops to 0.1°C on average during the night. Consult the chart below (lower right) for an indication of the monthly variation of average minimum daily temperatures<sup>1</sup>.

### 5.3.2 Environmental Issues

There are no issues to report on with regards to climate. The proposed housing development will not have an impact on climate in the area, and the climatological conditions in the area will not have an impact on the proposed housing development.

### 5.3.3 Potential Impacts

The proposed housing project is anticipated to have minimal impact on climate in terms of the release of emissions from construction vehicles.

### 5.3.4 Cumulative Impacts

The proposed project could contribute to CO<sub>2</sub> being released into the atmosphere which could contribute to global warming.

### 5.3.5 Specialist Studies Required

No specialist studies are required for the. The release of emissions from the construction will be addressed in the EMPr.

## 5.4 **Soils and Land Capability**

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### 5.4.1 Description

According to the AGIS agricultural map, the site is located on an area that is considered to be off high potential arable land and marginal potential arable land (Figure 5).

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<sup>1</sup> [http://www.saexplorer.co.za/south-africa/climate/kinross\\_climate.asp](http://www.saexplorer.co.za/south-africa/climate/kinross_climate.asp)

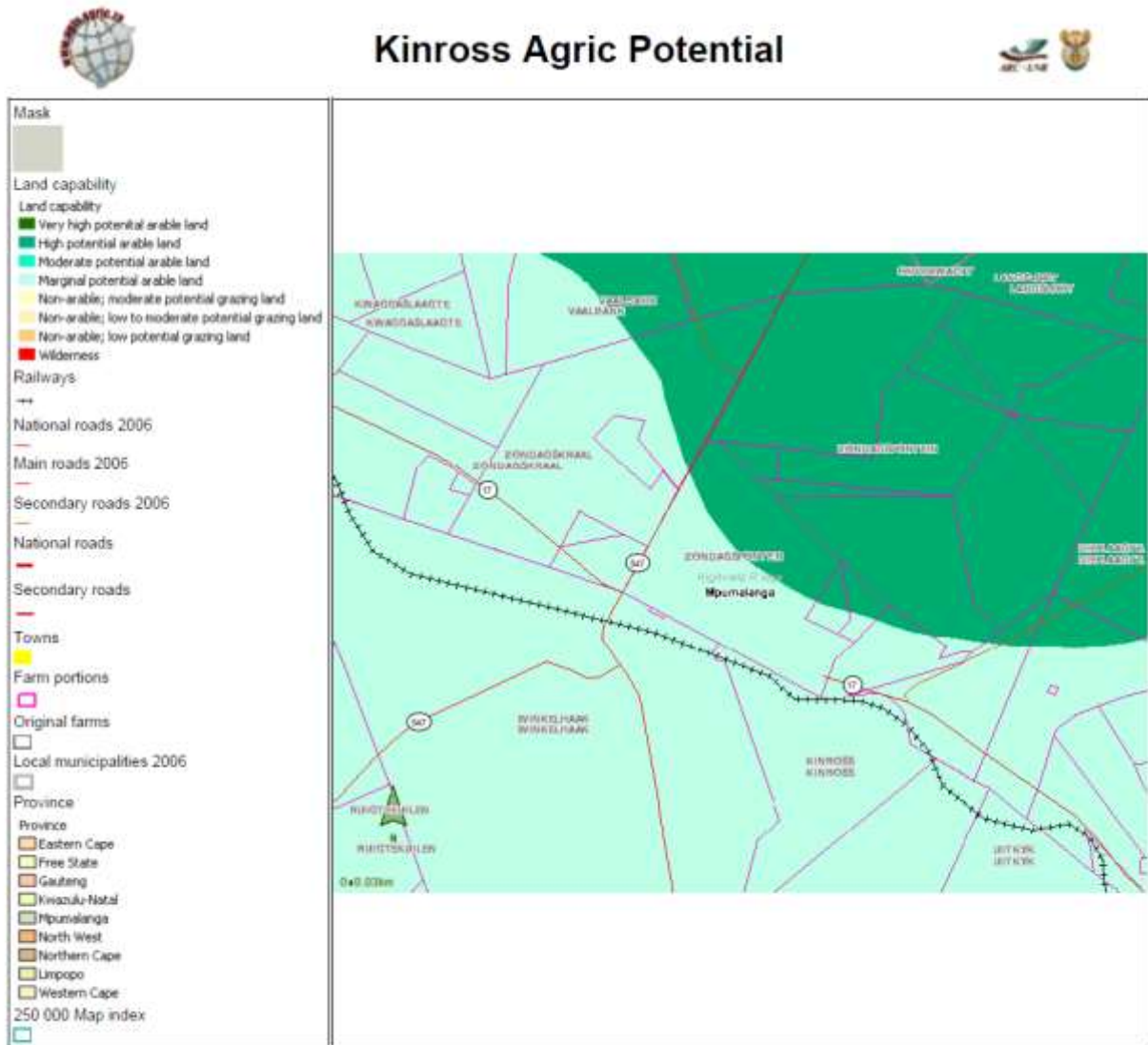


Figure 5: Map showing agricultural potential of the site

The proposed development site is surrounded by existing residential developments and as such it is suitable for the proposed housing development and will alleviate the demand for housing in the area.

#### 5.4.2 Environmental Issues

According to the AGIS agricultural map, the site is located on an area that is considered to be off high potential arable land and marginal potential arable land.

#### 5.4.3 Potential Impacts

Clearance of vegetation for construction, excavations for foundations and access road construction will leave the soil bare and exposed to wind and water erosion. During the construction phase, activities such

as topsoil stripping, removal and stockpiling of subsoil, and soil compaction will impact negatively on soils and will consequently impact on the land capability of the study area. Materials lay down areas as well as heavy vehicle and construction vehicle traffic on site will contribute to soil compaction. Areas compacted will lose their soil structure and fertility permanently. Furthermore, there is a risk of pollution by hydrocarbon spillages,

#### 5.4.4 Cumulative Impacts

There are no cumulative impacts

#### 5.4.5 Specialist Studies Required

No Specialist studies are required.

## 5.5 Land Use

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### 5.5.1 Regional Description

The site has been allocated for housing by the municipality. The site will need to be rezoned to “Residential” in order to accommodate the proposed development and will include both high and low densities, general mixed used as well as educational facilities.

### 5.5.2 Environmental Issues

The land use in the study area is characterised by open, undeveloped land. The proposed housing development on the property will impact on current and future land uses.

### 5.5.3 Potential Impacts

There will be a change in the land use from open space to residential. There will be a loss of open space locally. There is also a potential visual impact, as the property will now consist of a built environment. The change in the land use will result in an increase in traffic as a result of the new residents as well as a greater demand on the existing services.

### 5.5.4 Cumulative Impacts

The proposed project will utilise open space and contribute to the overall loss of open space in the region.

### 5.5.5 Specialist Studies Required

No specialist study is required.

## 5.6 Flora

### 5.6.1 Regional Description

The proposed site is located within the 2629AC quarter degree square in terms of the 1:50 000 grid of South Africa. SANBI used this grid system as a point of reference to determine any Red Data plant species or any species of conservation importance occurring in South Africa. This can be used to determine the list of species which could potentially occur within an area. **Table 4** and **Table 5** provide details on the Red Data plant species which have been recorded in 2629AC grid cell. The definitions of the conservation status are provided in **Table 6**. Due to the fact that threatened species have been historically noted in the area, it is imperative that detailed searches for these rare/threatened and protected species are made during the appropriate time of year when plants are likely to be more visible. (Phampe, 2013)

**Table 4:** Floral species of conservational significance recorded from the QDS of 2629AC (SANBI data)

Family	Species	Threat status	Growth forms
Amaryllidaceae	<i>Boophane disticha</i>	Declining	Geophyte, succulent
Amaryllidaceae	<i>Crinum bulbispermum</i>	Declining	Geophyte, hydrophyte
Asphodelaceae	<i>Kniphofia typhoides</i>	NT	Herb, succulent

**Table 5:** Farm Names where the Red Data Plant species were recorded, which could potentially occur in the study area (MTPA data).

Farm Name	Scientific Name	Conservation RSA	Conservation MTPA	Endemic
Blesbokspruit 90 IS	<i>Gladiolus robertsoniae</i>	NT	NT	SA
Frischgewaagd 87 IS	<i>Kniphofia typhoides</i>	NT	NT	SA
Holfontein 138 IS	<i>Boophane disticha</i>	Declining	Declining	NOT
Kwaggaslaagte 91 IS	<i>Gladiolus robertsoniae</i>	NT	NT	SA
Zondagsfontein 124 IS	<i>Kniphofia typhoides</i>	NT	NT	SA

**Table 6:** Definitions of relevant Red Data status (Raimondo *et al.* 1999)

Symbol	Status	Description
NT	Near Threatened	A taxon is <b>Near Threatened</b> when available evidence indicates that it nearly meets any of the five IUCN criteria for Vulnerable, and is therefore

		likely to qualify for a threatened category in the near future.
N/A	Declining	A taxon is <b>Declining</b> when it does not meet any of the five IUCN criteria and does not qualify for the categories Critically Endangered, Endangered, Vulnerable or Near Threatened, but there are threatening processes causing a continuing decline in the population.

### 5.6.2 Environmental Issues

The proposed development will negatively affect the biodiversity in the area.

### 5.6.3 Potential Impacts

Potential impacts to vegetation during the construction phase include the following:

- Clearing of vegetation from the site;
- Potential loss of rare, endangered or protected vegetation species due to habitat destruction;
- Loss of topsoil due to soil stripping, wind and water erosion;
- Damage to vegetation cover due to construction vehicle traffic as well as material lay down areas;
- Damage to vegetation due to accidental hydrocarbon spillages;
- Disturbance of natural vegetation along access or construction roads through trampling and construction vehicle traffic; and
- Establishment and spread of declared weeds and alien invader plants from disturbed areas, which can lead to the eventual replacement of indigenous vegetation.

Potential impacts to vegetation during the operational phase:

- Damage to vegetation due to movement of maintenance vehicles on vegetated areas;
- Establishment and spread of declared weeds and alien invader plants from disturbed areas, which can lead to the eventual replacement of indigenous vegetation; and
- Incorrect management of vegetation within the servitude.

### 5.6.4 Cumulative Impacts

None expected, but will be investigated during the EIA Phase.

### 5.6.5 Specialist Studies Required

A Vegetation Assessment will be undertaken during the EIA Phase.

## 5.7 Fauna

### 5.7.1 Regional Description

The faunal survey focused mainly on mammals, birds and reptiles at the proposed development site. The survey determined the current status of threatened animal species occurring, or likely to occur within the proposed site, describing the available and sensitive habitats. Faunal data was obtained during a field survey of the proposed development, which was carried out on foot. The data was supplemented by previous surveys conducted in similar habitats, literature investigations, and historic data. Different habitats were explored to identify any sensitive or endangered species.

#### Mammals

According to O'Connor & Bredenkamp (1997), a high degree of endemism within the biome occurs with nearly half of South Africa's 34 endemic mammals found in the Grassland biome; including several small and threatened mammals are also restricted to the biome. No list of potential mammal species has been recorded in the grid cell 2629AC ([http://vmus.adu.org.za/vm\\_view\\_db.php](http://vmus.adu.org.za/vm_view_db.php)). No data is available from MTPA for mammals recorded in 2629AC grid.

#### Avifauna

Conservation and planning tools were reviewed for relevancy in terms of the project area, and it was found that the study area did not contain or form part of any Important Bird Area (IBA). IBAs form a network of sites, at a biogeographic scale, which are crucial for the long-term viability of naturally occurring bird populations (Barnes, 1998 & Barnes, 2000). An avifaunal study indicated that the non-perennial river and natural grasslands should provide natural habitats for bird species, however no Red Data bird species were observed on the study site.

Observations regarding the number and diversity of birds will provide valuable input to sound management practices. **Table 7** indicates the Red Data bird species that were previously recorded in 2629AC by MTPA while Appendix A indicates bird species recorded as part of the Southern African Bird Atlas Project (SABAP) 2.

**Table 7:** Red Listed bird species which could potentially occur in the proposed development site (MTPA).

Farm Name/Area	Common Name	Scientific Name	Conservation RSA	Conservation MTPA
Kinross	White-headed Vulture	<i>Aegypius occipitalis</i>	Vulnerable	Vulnerable
Grootpan 86 IS	African Grass-Owl	<i>Tyto capensis</i>	Vulnerable	Vulnerable
Onverwacht 70 IS	African Grass-Owl	<i>Tyto capensis</i>	Vulnerable	Vulnerable

Farm Name/Area	Common Name	Scientific Name	Conservation RSA	Conservation MTPA
Schaapkraal 93 IS	Blue Crane	<i>Anthropoides paradiseus</i>	Vulnerable	Vulnerable
Uitmalkaar 126 IS	African Grass-Owl	<i>Tyto capensis</i>	Vulnerable	Vulnerable
Vlaklaagte 92 IS	Blue Crane	<i>Anthropoides paradiseus</i>	Vulnerable	Vulnerable

### Reptiles

According to O'Connor and Bredenkamp (1997), the Grassland biome houses 22% of South Africa's endemic reptiles. Sites in the study area were walked, covering as many different microhabitats as possible. Habitat characteristics were surveyed to note potential occurrences of reptiles. Wetland habitats are traditionally rich in reptile (snake) diversity and densities due to the habitat unit supporting a high abundance of prey species such as frogs, birds and small mammals. Habitat cover is also greater within wetland habitat. The majority of reptile species are sensitive to severe habitat alteration and fragmentation. Species are also very often "forced" into wetland and riparian zones due to the lack of suitable habitat elsewhere within catchment areas that have been transformed such as in large agricultural regions (Ross and Ross, 2009).

According to the data sourced from the South African Reptile Conservation Assessment for the grid 2629AC, one species is known to occur in the region-the Common Crag Lizard (*Pseudocordylus melanotus melanotus*). No data is available from MTPA for reptiles which had previously been recorded in 2629AC grid.

### 5.7.2 Environmental Issues

Vulnerable species could occur within the study area and the construction of the substation will have a negative impact of the habitats of these species.

### 5.7.3 Potential Impacts

Potential impacts which could occur during the construction phase include the following:

- Habitat loss due to vegetation clearing within the proposed site;
- Disturbance to fauna during the construction phase.

Potential impacts which could occur during the operational phase:

- Damage to habitat due to movement of vehicles on vegetated areas.



#### 5.7.4 Cumulative Impacts

None expected but will be investigated during the EIA Phase.

#### 5.7.5 Specialist Studies Required

A Faunal Assessment will be undertaken during the EIA Phase.

### 5.8 Air Quality

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#### 5.8.1 Regional Description

The Highveld area in South Africa is associated with poor air quality, and elevated concentrations of criteria pollutants occur due to the concentration of industrial and non-industrial sources (Held et al, 1996; DEAT, 2006).

Most of the HPA experiences relatively good air quality, but ambient air quality standards for SO<sub>2</sub>, PM<sub>10</sub> and ozone (O<sub>3</sub>) concentrations are exceeded in nine extensive areas<sup>2</sup>.

#### 5.8.2 Environmental Issues

There are no significant issues to Report on.

#### 5.8.3 Potential Impacts

Dust generation from stockpiles and soil stripping and vegetation clearing from the site during the construction phase, as well as vehicle traffic on dirt roads and construction vehicle fumes will have an impact on air quality.

#### 5.8.4 Cumulative Impacts

The potential air quality impacts which could result from activities undertaken during the construction phase of the proposed project will not be significantly different to the air quality impacts already occurring in the study area, and is not expected to have a significant increase to overall impact already occurring in the area.

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<sup>2</sup> <http://www.airqualitylekgotla.co.za/Downloads/Publications/HPA%20AQMP%20Executive%20Summary%20-%20with%20coverpage.pdf>

#### 5.8.5 Specialist Studies Required

No specialist studies recommended.

### **5.9 Noise**

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#### 5.9.1 Description

As mentioned previously, land uses in the study area are comprised of open space areas and residential areas. Noise levels in the study area are currently generated by vehicles traffic.

#### 5.9.2 Environmental Issues

Noise impact may result during the construction phases of the proposed development.

#### 5.9.3 Potential Impacts

During the construction phase, the operation of machinery and equipment, as well as the construction vehicle traffic will create a noise impact.

#### 5.9.4 Cumulative Impacts

The construction and operational phases of the proposed development is expected to have a low cumulative impact on the noise levels in the study area.

#### 5.9.5 Specialist Studies Required

No specialist studies are required

### **5.10 Visual**

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#### 5.10.1 Area/Site Description

The site is currently vacant. The aesthetics will not be negatively impacted by the proposed development as the site does not have any scenic resources on or near the study area. The proposed development may improve the appearance of the area which will become more visually appealing.

#### 5.10.2 Environmental Issues

Visual impact may result during the construction and operational phases of the proposed project.

### 5.10.3 Potential Impacts

During the construction phase, the inadequate storage of material, equipment and waste may result a potential visual impact. During the operational phase, there is a potential for improved aesthetic appeal by providing new and good quality housing

### 5.10.4 Cumulative Impacts

None expected.

### 5.10.5 Specialist Studies Required

None.

## 5.11 **Infrastructure and Services**

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### 5.11.1 Description

The Kinross proposed housing development is situated in close proximity to and readily accessible via Louis Du Preez Drive and Manuel Street.

As Kinross is an existing township with an established road network the proposed development site is easily accessible. The new internal roadways and accesses for the different developmental sites will be planned in accordance with the Govan Mbeki Municipality's and other standards and specifications. The site is surrounded by residential areas to the east and west of the site, where services such as the provision of potable water and electricity, refuse collection, stormwater and waste water services are provided by the Municipality. These services will be extended to the proposed development.

### 5.11.2 Environmental Issues

No substantial issues to report on.

### 5.11.3 Potential Impacts

During the construction phase, construction vehicles will travel to and from the site delivering construction materials, which will have an impact on traffic volumes in the area. During the operational phase residential vehicle and public transport vehicles will utilise the roads. The potential impact is anticipated to be minimal.

During the construction phase, there is a potential for the existing service infrastructure to be damaged, and during the operational phase, there will be a potential increase on the services i.e. electricity, water, waste water etc.

#### 5.11.4 Cumulative Impacts

During the construction phase construction vehicles will result in additional vehicle traffic in the study area. This impact will however only occur during the construction phase.

#### 5.11.5 Specialist Studies Required

A Traffic Impact Assessment will be undertaken and included in the EIR for review.

## 5.12 Socio-Economic Environment

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### 5.12.1 Description

The study area falls within the Govan Mbeki Municipality, Mpumalanga Province. The study area is located in an existing urban residential area. Residential uses and open spaces / vacant land are the main land uses in the study area.

There is an increasing need for housing in the study area and the proposed development will contribute to the development in the region. The proposed housing development will increase the local community's living standards, will provide access to economic opportunities within the region and will uplift the sustainability of the region.

The following is an indication of the demographic information for the Govan Mbeki Municipality as Census 2011 Municipal Fact Sheet, published by Statistics South Africa:

#### **Labour market**

Unemployment Rate (official): 26.20%  
Youth Unemployment Rate (official) 15-34:  
34.40%

#### **Education (aged 20 +)**

No Schooling: 7.90%  
Higher Education: 12.60%  
Matric: 31.30%

#### **Household dynamics**

Households: 83 874  
Average Household Size: 3.30  
Female Headed Households: 30.80%

Formal Dwellings: 71.00%  
Housing Owned: 52.00%

The proposed housing development will be a residential precinct effectively integrated within the existing Kinross residential settlement. As the site is located between existing residential development, there is no social environment of significance that that will be impacted upon by the proposed housing development.

#### 5.12.2 Social Issues

There could be an influx of job seekers and workers during the construction phase. The provision of housing and basic services will be a positive impact during the operational phase.

#### 5.12.3 Potential Impacts

Potential job opportunities could be created during the construction phases of the development. During the operational phase, basic services and housing will be provided which is positive impact.

#### 5.12.4 Cumulative Impacts

This project will provide housing and basic services and contribute towards alleviating this problem in the province.

#### 5.12.5 Specialist Studies Required

None

### **5.13 Archaeology and Cultural Historical**

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#### 5.13.1 Description

There are no known significant archaeological or cultural elements that are within close proximity of the study area.

#### 5.13.2 Environmental Issues

A Heritage Impact Assessment will be undertaken during the EIA Phase to determine whether any features or artefacts of historical or cultural importance occur within the study area. Impacts will be determined based on the outcome of the findings of the Heritage Impact Assessment Report and will be addressed in the EIA Report.

### 5.13.3 Potential Impacts

A Heritage Impact Assessment will be undertaken during the EIA Phase to determine whether any features or artefacts of historical or cultural importance occur within the study area. Impact will be determined based on the outcome of the findings of the Heritage Impact Assessment Report and will be addressed in the EIA Report.

### 5.13.4 Cumulative Impacts

A Heritage Impact Assessment will be undertaken during the EIA Phase to determine whether any features or artefacts of historical or cultural importance occur on site. Impact will be determined based on the outcome of the findings of the Heritage Impact Assessment Report and will be addressed in the EIA Report.

### 5.13.5 Specialist Studies Required

In terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999), a Heritage Impact Assessment should be undertaken for the proposed project to determine whether any artefacts of cultural or historical importance occur on site.

## 6 PUBLIC PARTICIPATION PROCESS

### 6.1 PUBLIC PARTICIPATION

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The public participation process that was followed for proposed project is governed by GN. R. 543 of 18 June 2010.

The purpose of public participation includes:

1. Providing I&APs with an opportunity to obtain information about the project;
2. Allowing I&APs to present their views, issues and concerns with regard to the project;
3. Granting I&APs an opportunity to recommend measures to avoid or reduce adverse impacts and enhance positive impacts associated with the project; and
4. Enabling the project team to incorporate the needs, concerns and recommendations of I&APs into the project.

The Public Participation Process included the following:

- Consultation and involvement of relevant Authorities at various levels;
- Consultation and involvement of the owners and occupiers of land adjacent to the properties earmarked for development by hand delivering Background Information Documents (BID's) to all owners and occupiers adjacent to the property earmarked for development;
- Consultation and involvement of the municipal ward councillors of the wards in which the properties earmarked for development are located;
- Consultation and involvement of the municipality which has jurisdiction in the area;
- Consultation and involvement of any organ of state having jurisdiction in respect of any aspect of the activity;
- Compilation and placing of advertisements in local and regional newspapers;
- Compilation and placing of site notices on the properties earmarked for development; and
- Hosting of a Public Meeting.

### 6.2 Notification of I & APs

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Notification of I&APs was undertaken in the following ways:

- A database of I&APs, which contained authorities, stakeholders, landowners and members of the general public, was prepared for the project (Appendix 3).

- Notification of the Scoping and EIA Process was delivered to all members of the I&AP database via fax, email or by hand on the 06 February 2014 and 18 February 2014 (see attached notice – Appendix 3).
- Newspaper advertisements will be placed in the following newspaper:
  - The Echo Newspaper.

The newspaper advertisement will have details of the proposed project, contact details of the Environmental Assessment practitioner and an invitation for any interested or affected party to comment or register as an I&AP for the proposed project.
- A Background Information Document with a response form will be provided to I & APs (see Appendix 3).
- Onsite notices of regulated size, regarding the commencement of the EIA process were placed at strategic points on 06 February 2014.
- Copies of the draft Scoping Report will be placed at the following locations to provide I&APs with the opportunity to review and comment on the draft Scoping report. A 30 day review period (26 February 2014 – 27 March 2014) will be granted.

Copy No.	Location	Address	Telephone Number
1	Public Library	TBC	TBC

- I & APs will be notified of the release of the Final Scoping Report for review. A 14 day review period will be granted.

### 6.3 Distribution of Scoping Report

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Copies of the Draft Scoping Report were distributed to the following authorities:

- Mpumalanga Department of Economic Development, Environmental and Tourism (MDEDET);
- Department of Water Affairs (DWA);
- South African Heritage Resource Agency (SAHRA);
- Mpumalanga Department of Public Transport, Roads and Works;
- Mpumalanga Department of Housing (DoH);
- Mpumalanga Department Corporate Governance and Traditional Affairs (COGTA);
- Department of Agriculture, Forestry and Fisheries (DAFF); and
- Govan Mbeki Local Municipality;
- Gert Sibande District Municipality;
- Mpumalanga Department of Parks and Tourism Agency.



## 6.4 Issues and Concerns Raised

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No comments have been received to date. A summary of the comments and the response provided by the EAP will be included in Appendix C for review. A copy of the actual comments will also be included in Appendix C.

## 7 PLAN OF STUDY FOR EIA

The purpose of the EIA is to:

- Address issues that have been raised during the Scoping Phase;
- Assess alternatives to the proposed activity in a comparative manner;
- Assess all identified impacts and determine the significance for each impact; and
- Formulate mitigation measures.

The EIA Phase will consist of the following activities:

- Stakeholder engagement;
- Assessment of alternatives;
- Specialist Studies;
- Interaction of project design and baseline environmental criteria;
- Identification of potential impacts;
- Impact Assessment;
- Identification and description of mitigation measures; and
- Reporting and decision making.

These phases are described in more details below:

### 7.1 Stakeholder Engagement during the EIA

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The public participation process will be continued through the EIA phase for the proposed development to keep relevant Authorities and Interested and Affected Parties apprised on the decision of the Authorities regarding the Scoping Report, of the outcome of the specialist studies and the EIA for the proposed development.

During the EIA phase the following activities will be undertaken:

- Notification of I & AP's on the Authority's decision regarding the Scoping Report, and notification that the EIA phase will commence, as well as details of the EIA phase;
- Registration of any additional stakeholders;
- Placement of newspaper advertisements in local or regional newspapers identified during the Scoping phase, for a duration of 2 weeks, notifying stakeholders of the availability of the Draft EIA Report for comment;
- Placement of onsite and community notices notifying the stakeholders of the availability of the Draft EIA Report for comment;
- Distribution of notification letters to all I & AP's informing them of the availability of the Draft EIA Report for comment;
- Hosting a Public Meeting / Open Day to display project information and facilitate communication;
- Communication through letters, telephone calls and emails will be maintained with authorities and stakeholders throughout the process until Environmental Authorisation (EA) is issued; and
- Steering committee meetings, if required, will be held throughout the EIA phase with Authorities until an EA is issued.

The Draft EIA Report was made available for review prior to submission. Comments received from the stakeholders was included and addressed in the Final EIA Report. The Final EIA Report will then be submitted to MDEDET for review along with an Environmental Management Programme (EMPr) for the proposed project.

## **7.2 Criteria for Assessing Environmental Issues, Alternatives and No-Go's**

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All issues raised will be screened according to the following criteria to determine the significance of the issue for further consideration during the EIA:

1. Availability and accuracy of existing information;
2. Level of detail required for decision-making;
3. Potential consequence of environmental impact;
4. Potential probability of environmental impact occurring;
5. Potential persistence of environmental impact once it has occurred;
6. Potential sensitivity of receiving environment; and
7. Potential risk to human health.

Each issue or potential impact identified will be rated on a scale from 1 to 5. Should the average rating exceed a value of 3, or should a rating of 5 be allocated for any one of the screening criteria the feasibility of a specialist study or further investigations will be triggered.

The following alternatives will be considered during the EIA:

- An assessment of site layout and design alternatives will be considered as well as the no-go option.

### 7.3 Specialist Studies

Specialists will be appointed to undertake the necessary specialist studies which has been identified in Section 5 above. Findings of these specialists' studies will be used to create sensitivity maps and no-go areas. It is envisaged that the specialist studies documented in Table 4 will be required.

**Table 8: Specialist studies to be undertaken during the detailed EIA phase.**

Specialist Study	Specialist Considered	Objective of the Study
Fauna and Flora Impact Assessment	Nemai Consulting	<ul style="list-style-type: none"> <li>➤ Describe the fauna occurring in the study area.</li> <li>➤ Describe the habitat integrity.</li> <li>➤ Identify the presence of or likelihood of occurrence of red data species.</li> <li>➤ Identify “no-go” and ecological sensitivity map.</li> </ul>
Geological and Geotechnical Investigation	TBC	<ul style="list-style-type: none"> <li>➤ Will form part of the Engineering Studies to be undertaken as part of the detailed design.</li> </ul>
Traffic Impact Assessment	TBC	<ul style="list-style-type: none"> <li>➤ Will form part of the Engineering Studies to be undertaken as part of the detailed design.</li> </ul>
Stormwater Management Plan	TBC	<ul style="list-style-type: none"> <li>➤ Will form part of the Engineering Studies to be undertaken as part of the detailed design.</li> </ul>
Flood line Assessment	TBC	<ul style="list-style-type: none"> <li>➤ Will form part of the Engineering Studies to be undertaken as part of the detailed design.</li> </ul>
Heritage Impact Assessment	Nemai Consulting	<ul style="list-style-type: none"> <li>➤ Identify whether any features occur on site which might have cultural or historical value;</li> <li>➤ Provide recommendations on development.</li> </ul>
Wetland Impact Assessment	Scientific Aquatic Services	<ul style="list-style-type: none"> <li>➤ Identify and delineate all watercourse on and around the site and to recommend mitigation measures to ensure that the watercourses are protected.</li> </ul>

### 7.4 Environmental Impact Assessment

During the EIA Phase impacts will be ranked according to the methodology described below. Where possible, mitigation measures will be provided to manage impacts.

In order to ensure uniformity, a standard impact assessment methodology has been utilised so that a wide range of impacts can be compared. The impact assessment methodology makes provision for the assessment of impacts against the following criteria:

- significance;
- spatial scale;
- temporal scale;
- probability; and
- degree of certainty.

A combined quantitative and qualitative methodology will be used to describe impacts for each of the aforementioned assessment criteria. A summary of each of the qualitative descriptors along with the equivalent quantitative rating scale for each of the aforementioned criteria is given in Table 5 below.

**Table 9: Quantitative rating and equivalent descriptors for each of the impact assessment criteria.**

RATING	SIGNIFICANCE	SPATIAL SCALE	TEMPORAL SCALE
1	VERY LOW	<i>Study area</i>	<u>Incidental</u>
2	LOW	<i>Local</i>	<u>Short-term</u>
3	MODERATE	<i>Regional</i>	<u>Medium-term</u>
4	HIGH	<i>National</i>	<u>Long-term</u>
5	VERY HIGH	<i>Global</i>	<u>Permanent</u>

A more detailed description of each of the assessment criteria is given in the following sections.

#### 7.4.1 Significance Assessment

Significance rating (importance) of the associated impacts embraces the notion of extent and magnitude, but does not always clearly define these since their importance in the rating scale is very relative. For example, the magnitude (i.e. the size) of area affected by atmospheric pollution may be extremely large (1000 km<sup>2</sup>) but the significance of this effect is dependent on the concentration or level of pollution. If the concentration is great, the significance of the impact would be HIGH or VERY HIGH, but if it is dilute it would be VERY LOW or LOW. Similarly, if 60 ha of a grassland type are destroyed the impact would be VERY HIGH if only 100 ha of that grassland type was known. The impact would be VERY LOW if the grassland type were common. A more detailed description of the impact significance rating scale is given in Table 6 below.

**Table 10: Description of the significance rating scale.**

RATING	DESCRIPTION
5	VERY HIGH
Of the highest order possible within the bounds of impacts which could occur. In the	

RATING		DESCRIPTION
		case of adverse impacts: there is no possible mitigation and/or remedial activity which could offset the impact. In the case of beneficial impacts, there is no real alternative to achieving this benefit.
4	HIGH	Impact is of substantial order within the bounds of impacts, which could occur. In the case of adverse impacts: mitigation and/or remedial activity is feasible but difficult, expensive, time-consuming or some combination of these. In the case of beneficial impacts, other means of achieving this benefit are feasible but they are more difficult, expensive, time-consuming or some combination of these.
3	MODERATE	Impact is real but not substantial in relation to other impacts, which might take effect within the bounds of those which could occur. In the case of adverse impacts: mitigation and/or remedial activity are both feasible and fairly easily possible. In the case of beneficial impacts: other means of achieving this benefit are about equal in time, cost, effort, etc.
2	LOW	Impact is of a low order and therefore likely to have little real effect. In the case of adverse impacts: mitigation and/or remedial activity is either easily achieved or little will be required, or both. In the case of beneficial impacts, alternative means for achieving this benefit are likely to be easier, cheaper, more effective, less time consuming, or some combination of these.
1	VERY LOW	Impact is negligible within the bounds of impacts which could occur. In the case of adverse impacts, almost no mitigation and/or remedial activity is needed, and any minor steps which might be needed are easy, cheap, and simple. In the case of beneficial impacts, alternative means are almost all likely to be better, in one or a number of ways, than this means of achieving the benefit. Three additional categories must also be used where relevant. They are in addition to the category represented on the scale, and if used, will replace the scale.
0	NO IMPACT	There is no impact at all - not even a very low impact on a party or system.

#### 7.4.2 Spatial Scale

The spatial scale refers to the extent of the impact i.e. will the impact be felt at the local, regional, or global scale. The spatial assessment scale which will be used is described in more detail in Table 7.

**Table 11: Description of the Spatial Scale**

RATING		DESCRIPTION
5	Global/National	The maximum extent of any impact.
4	Regional/Provincial	The spatial scale is moderate within the bounds of impacts possible, and will be felt at a regional scale (District Municipality to Provincial Level).
3	Local	The impact will affect an area up to 5 km from the proposed site.
2	Study Area	The impact will affect an area not exceeding the Boundary of the study site
1	Isolated Sites /	The impact will affect an area no bigger than the development footprint.

RATING	DESCRIPTION
proposed site	

#### 7.4.3 Temporal Scale

In order to accurately describe the impact it is necessary to understand the duration and persistence of an impact on the environment. The temporal scale will be rated according to criteria set out in Table 8.

**Table 12: Description of the temporal rating scale**

RATING	DESCRIPTION
1	Incidental The impact will be limited to isolated incidences that are expected to occur very sporadically.
2	Short-term The environmental impact identified will operate for the duration of the construction phase or a period of less than 5 years, whichever is the greater.
3	Medium term The environmental impact identified will operate for the duration of life of plant.
4	Long term The environmental impact identified will operate beyond the life of operation.
5	Permanent The environmental impact will be permanent.

#### 7.4.4 Degree of Probability

Probability or likelihood of an impact occurring will be described in terms of the risk assessment procedure currently in use by the plant. The description of probability is shown in 9 below.

**Table 13: Description of the degree of probability of an impact accruing**

RATING	DESCRIPTION
1	Practically impossible
2	Unlikely
3	Could happen
4	Very Likely
5	It's going to happen / has occurred

#### 7.4.5 Degree of Certainty

As with all studies it is not possible to be 100% certain of all facts, and for this reason a standard “degree of certainty” scale will be used as discussed in Table 10. The level of detail for specialist studies will be determined according to the degree of certainty required for decision-making. The impacts will be discussed in terms of affected parties or environmental components.

**Table 14: Description of the degree of certainty rating scale.**

RATING	DESCRIPTION
<b>Definite</b>	More than 90% sure of a particular fact.
<b>Probable</b>	Between 70 and 90% sure of a particular fact, or of the likelihood of that impact occurring.
<b>Possible</b>	Between 40 and 70% sure of a particular fact or of the likelihood of an impact occurring.
<b>Unsure</b>	Less than 40% sure of a particular fact or the likelihood of an impact occurring.
<b>Can't know</b>	The consultant believes an assessment is not possible even with additional research.
<b>Don't know</b>	The consultant cannot, or is unwilling, to make an assessment given available information.

#### 7.4.6 Quantitative Description of Impacts

To allow for impacts to be described in a quantitative manner in addition to the qualitative description given above, a rating scale of between 1 and 5 will be used for each of the assessment criteria. Thus the total value of the impact is described as the function of significance, spatial and temporal scale as described below:

$$\text{Impact Risk} = (\text{SIGNIFICANCE} + \text{Spatial} + \text{Temporal}) \times \text{Probability}$$

3                                  5

An example of how this rating scale is applied is shown below:

IMPACT	SIGNIFICANCE	SPATIAL SCALE	TEMPORAL SCALE	PROBABILITY	RATING
	LOW	<i>Local</i>	<u>Medium-term</u>	<u>Could Happen</u>	
Impact to air	<b>2</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>1.6</b>

**Note:** The significance, spatial and temporal scales are added to give a total of 8, that is divided by 3 to give a criteria rating of 2,67. The probability (3) is divided by 5 to give a probability rating of 0,6. The criteria rating of 2,67 is then multiplied by the probability rating (0,6) to give the final rating of 1,6.

The impact risk is classified according to 5 classes as described in the table below.

**Table 15: Impact Risk Classes**

RATING	IMPACT CLASS	DESCRIPTION
0.1-1.0	1	Very Low
1.1-2.0	2	Low
2.1-3.0	3	Moderate
3.1-4.0	4	High
4.1-5.0	5	Very High

Therefore with reference to the example used for air quality above, an impact rating of 1.6 will fall in the Impact Class 2, which will be considered to be a low impact.

#### 7.4.7 Notation of Impacts

In order to make the report easier to read the following notation format is used to highlight the various components of the assessment:

Significance or magnitude- IN CAPITALS

Duration – in underline

Probability – *in italics and underlined*.

Degree of certainty - **in bold**

Spatial Scale – *in italics*

## 7.5 EIA Report

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The EIA Report will be compiled to satisfy the minimum requirements stipulated in Section 31 of Government Notice No. R. 543 of 18 June 2010. The EIA Report will consist of the following:

- A detailed description of the proposed development;
- A detailed description of the proposed development site / location;
- A description of the environment that may be affected by the activity and the manner in which physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed development;
- The methodology of the stakeholder engagement process will be described;
- The Issues Report and Stakeholder Database will be provided as an appendix to the EIA Report;
- A description of the need and desirability of the proposed development and the identified potential alternatives to the proposed activity;
- A summary of the methodology used in determining the significance of potential impacts;
- A description and comparative assessment of all alternatives identified during the Environmental Impact Assessment Process;
- A summary of the findings of the specialist studies;
- A detailed assessment of all identified potential impacts;
- A list of the assumptions, uncertainties and gaps in knowledge;
- An opinion by the consultant as to whether the development is suitable for approval within the proposed site;
- An environmental management programme that complies with regulation 33 of Act 107 of 1998;
- Copies of all specialist reports appended to the EIA report; and
- Any further information that will assist in decision making by the authorities.

## 7.6 Environmental Management Programme (EMPr)

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The Environmental Management Programme will highlight the most significant potential impacts and provide mitigation measures for these impacts to ensure that the risk of impact is reduced and that the activity generating the impact is suitably managed. The EMPr will comply with Section 24N and include:



- (a) details of-
- (i) the person who prepared the environmental management programme; and
  - (ii) the expertise of that person to prepare an environmental management programme;
- (b) information on any proposed management or mitigation measures that will be taken to address the environmental impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of-
- (i) planning and design;
  - (ii) pre-construction and construction activities;
  - (iii) operation or undertaking of the activity;
  - (iv) rehabilitation of the environment; and
  - (v) closure, where relevant.
- (c) a detailed description of the aspects of the activity that are covered by the draft environmental management programme;
- (d) an identification of the persons who will be responsible for the implementation of the measures contemplated in paragraph (b);
- (e) proposed mechanisms for monitoring compliance with and performance assessment against the environmental management programme and reporting thereon;
- (f) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including, where appropriate, concurrent or progressive rehabilitation measures;
- (g) a description of the manner in which it intends to-
- (i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
  - (ii) remedy the cause of pollution or degradation and migration of pollutants;
  - (iii) comply with any prescribed environmental management standards or practices;
  - (iv) comply with any applicable provisions of the Act regarding closure, where applicable;
  - (v) comply with any provisions of the Act regarding financial provisions for rehabilitation, where applicable;
- (h) time periods within which the measures contemplated in the environmental management programme must be implemented;
- (i) the process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of undertaking a listed activity;
- (j) an environmental awareness plan describing the manner in which-
- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and
  - (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment;
- (k) where appropriate, closure plans, including closure objectives.

## 7.7 EIA Timeframes

The table below presents to proposed timeframes for the EIA process, which takes cognisance of DEA's proposed SID timeframes. Note that these dates are subject to change.

**Table 16: EIA Timeframes**

EIA Milestone	Proposed Timeframe
Public Review of draft Scoping Report	06/03/2014 – 07/04/2014
Authority Review of draft Scoping Report	06/03/2014 – 17/04/2014
Submission of final Scoping Report to DEA	23/04/2014
Review of Scoping Report by DEA	23/04/2014 – 09/06/2014
Notification of Scoping Report decision and commencement of EIA	10/06/2014
Preparation of Draft EIR and Undertaking of Specialist studies	10/06/2014 – 10/07/2014
EIA Public Participation and Public and Authority Review of draft EIA Report	11/07/2014 – 25/08/2014
Public Review of Final EIR	27/08/2014 – 10/09/2014
Submit final EIA Report to DEA	12/09/2014
DEA Review & Decision	12/09/2014 – 29/01/2015
Notify I&APs of Decision	30/01/2015

**Note:** *Dates may change during the course of the EIA process*

## 8 ASSUMPTIONS, LIMITATIONS AND GAPS IN KNOWLEDGE

The following assumptions and limitations accompany the Scoping exercise for the proposed housing project:

- It is accepted that the project motivation and description, as obtained from the applicant, is accurate.
- It is assumed that the baseline information scrutinised and used to explain the environmental profile is accurate.

The limitations and gaps are as follows:

- The Scoping process did not include the possible locations of construction camp. The EIA phase will investigate the potential sites and impacts further.

**Appendix 1: Topographical Maps and Site Layout**

**Appendix 2: EAP's Curriculum Vitae's**

**Appendix 3: Public Participation Documentation**

**Proof of Notification of I & AP's and Distribution of Draft Scoping Report**

**Copy of Site Notice**



**Advert**

**Background Information Document (BID)**

**List of Registered I & APs**

**Distribution of Final Scoping Report**

This will be included in the final EIR

**Meeting Minutes, Meeting Register and Copy of Presentation**

To date there has been no request from I & APs and as such there are no minutes, register or presentation.

**Comments and Response Table and Actual Comments**

**Correspondence**