DRAFT BASIC ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT OF A 132KV SMASHBLOCK SUBSTATION ON PORTION 27 OF ZWARTKOP FARM NO.369 KQ WITHIN THE JURISDICTION OF THE THABAZIMBI LOCAL MUNICIPALITY IN THE LIMPOPO PROVINCE.

REFERENCE NO: LIM/EIA/000137312021.

DATE OF SUBMISSION : 17 AUGUST 2021.

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THABAZIMBI Municipality

EXECUTIVE SUMMARY

Lesekha Consulting was appointed by Mani Industries Consulting Engineers on behalf of the Thabazimbi Local Municipality as an independent Environmental Assessment Practitioner (EAP) responsible for facilitating the legally required Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, read with the Environmental Impact Assessment Regulations, (08 December 2014).

The applicant, Thabazimbi Local Municipality is proposing to develop a 132kv Smashblock substation on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province. The extend of vegetation that will be cleared is one hectare. The area falls under the jurisdiction of the Waterberg District Municipality in the Limpopo Province.

The relevant application has already been lodged with the Department of Economic Development Environment and Tourism (DEDET) for authorization, with the reference number as **LIM/EIA/000137312021.:** As such, a Basic Assessment Application process (BAR) will be undertaken to obtain an Environmental Authorization for the proposed project.

The proposed development of a 132kv Smashblock substation on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province triggers the EIA Regulation Government Notice 983, 08 December 2014.

Listing Notice 1: Activity Number 27: The clearance of an area of 1 hectare or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for -

(i) Undertaking of a linear activity; or

(ii) Maintenance purpose undertaken in accordance with a maintenance management plan.

Listing Notice 1: Activity Number 11:

Activity No. 11: The development of facilities or infrastructure for the transmission and distribution of electricity—

(i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or

(ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more, excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is—

(a) temporarily required to allow for maintenance of existing infrastructure;
(b) two kilometres or shorter in length;
(c) within an existing transmission line servitude;
and (d) will be removed within 18 months of the commencement of development.

This Draft Basic Assessment Report has been drafted in accordance with the EIA Regulations, 2014.

Contents

TERMS AND DEFINITIONS

TERM/S	DEFINITION
Alternatives	Alternatives are different means of meeting the general purpose and need of a proposed activity. Alternatives may include location or site alternatives, activity alternatives, process or technology alternatives, temporal alternatives or the no-go alternative.
Appeal	Any affected person may appeal a decision of the competent authority to the MEC.
Applicant	An applicant is a person who applies for an environmental authorisation in order to undertake a listed activity lawfully. The applicant must appoint an independent EAP to manage the application process.
Benefits assessment	The objective of the assessment of benefits is to identify and assess all the significant benefits that may arise from the undertaking of an activity.
Competent authority	The person who makes decisions in respect of applications for environmental authorizations is known as the competent authority. In this instance, the competent authority is the MEC of Limpopo Province. Delegated officials from relevant departments assist the MEC with the final decision.
Cumulative impacts	Cumulative impacts are impacts that result from the incremental impact of the proposed activity on a common resource when added to the impacts of other past, present or reasonably foreseeable future activities. Cumulative impacts can occur from the collective impacts of individual minor actions over a period and can include both direct and indirect impacts.
Direct impacts	Direct impacts are impacts that are caused directly by the activity and generally occur at the same time and at the place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally obvious and quantifiable.
Disposal	Licensing, management, capacity, etc. of landfill sites and dump sites.
EAP	An EAP is a person who manages an application for environmental authorisation for an applicant.
Education and Awareness	Public education and awareness initiatives regarding the impact of waste on the environment and people's health and the promotion of sound waste management practices.
EIA process	The scoping and EIA process involves a complex and intensive assessment of the potential impacts of an activity. The process takes place in three broad phases, namely submission of an application form, scoping and the EIA.
Emissions	The release or discharge of a substance into the environment which generally refers to the release of gases or particulates into the air

TERM/S	DEFINITION
Environmental Impact Assessment	Assessment of the effects of a development on the environment
Environmental Management Programme	A working document on environmental and socio-economic mitigation measures that must be implemented by several responsible parties during all the phases of the proposed project.
Fatal Flaw	Issue or conflict (real or perceived) that could result in developments being rejected or stopped
Impacts	Impacts are the changes in an environmental parameter that result from undertaking an activity. The change is the difference between the effects on the environmental parameter where the activity is undertaken compared to that where the activity is not undertaken. Impacts may be positive or negative and may be categorized as being direct (primary), indirect (secondary) or cumulative impacts.
Impacts assessment	The objective of the assessment of impacts is to identify and assess all the significant impacts that may arise from the undertaking of an activity.
Indirect impacts	Indirect impacts of an activity are indirect or induced changes that may occur because of the activity. These types of impacts include all the potential impacts that do not manifest immediately when the activity is undertaken or which occur at a different place as a result of the activity.
Integrated Waste Management Plan	An Integrated Waste Management Plan provides a framework within which local municipalities can deliver a waste management service to all residents and businesses.
Interested and Affected Parties	The public is legally required to be given an opportunity to comment on applications for environmental authorization. Members of the public who want to participate in an assessment process must first register as I&AP's.
Mitigation measures	Mitigation measures are the steps that are taken to reduce the identified impacts as far as possible. Mitigation measures will address the predicted factors of the impacts clearly to demonstrate how the impacts will be reduced through mitigation.
Municipal solid waste	Solid waste resulting from or incidental to municipal, community, commercial, institutional and recreational activities, and includes garbage, rubbish, ashes, street cleanings, abandoned automobiles, and all other solid wastes except hazardous waste, industrial solid waste, oilfield waste and biomedical wastes.
No-go alternative	The no-go alternative is the option of not undertaking the proposed activity or any of its alternatives. The no-go alternative also provides the baseline

TERM/S	DEFINITION
	against which the impacts of other alternatives can be compared.
Open Space	Environmentally sensitive areas which are not suitable for development and consist of watercourses, buffers, floodplains, steep slopes, sensitive biodiversity and/or areas of cultural or heritage significance.
Public participation	Public participation is a key element of both the scoping and EIA processes and must be conducted in accordance with at least the minimum requirements as set out in the Regulations.
Recycle	Means to do anything that results in providing a use for a thing that otherwise would be disposed of or dealt with as waste, including collecting, transporting, handling, storing, sorting, separating and processing the thing, but does not include the application of waste to land or the use of a thermal destruction process.
Stakeholder engagement –	The process of engagement between stakeholders (the proponent, authorities and I&APs) during the planning, assessment, implementation and/or management of proposals or activities.

ABBREVIATIONS AND ACRONYMS

ABBREVIATIONS	ACRONYMS
APPA	Air Pollution Prevention Act
BAR	Basic Assessment Report
BID	Background Information Document
CRR	Comments and Response Report
DEA	Department of Environmental Affairs
EAP	Environmental Assessment Practitioner
ECA	Environment Conservation Act
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMF	Environmental Management Framework
EMPr	Environmental Management Programme
EMPR	Environmental Management Program Report
GA	General Authorization
GIS	Geographic Information System
GN	Government Notice
I&AP	Interested and/or Affected Parties
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IWULA	Integrated Water Use License Application
LED	Local Economic Development
MSA	Municipal Service Act
NDP	National Development Plan
NEM:BA	National Environmental Management: Biodiversity Act
NEMA	National Environmental Management Act (No. 107 of 1998) (as amended)
NEMAA	National Environmental Management Amendment Act
NEMWA	National Environmental Management: Waste Act (No. 59 of 2008)
NHRA	National Heritage Resources Act (No. 25 of 1999)
NSBA	National Spatial Biodiversity Assessment
NWA	National Water Act (No. 36 of 1998)
DEDET	Department Economic Development Environment Conservation and Tourism
PPP	Public Participation Process
SAHRA	South African Heritage Resources Agency

ABBREVIATIONS	ACRONYMS
SANBI	South Africa National Biodiversity Institute
SANS	South Africa National Standards
SDF	Spatial Development Framework
SDI	Spatial Development Initiative
SEA	Strategic Environmental Assessment
SEMP	Strategic Environmental Management Plan
ToR	Terms of Reference

1. INTRODUCTION

Lesekha Consulting was appointed by Mani Industries Consulting Engineers on behalf of the Thabazimbi Local Municipality as an independent Environmental Assessment Practitioner (EAP) responsible for facilitating the legally required Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, read with the Environmental Impact Assessment Regulations, (08 December 2014).

The applicant, Thabazimbi Local Municipality is proposing to develop a 132kv Smashblock substation on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province. The extend of vegetation that will be cleared is one hectare. The area falls under the jurisdiction of the Waterberg District Municipality in the Limpopo Province.

The relevant application has already been lodged with the Department of Economic Development Environment and Tourism (DEDET) for authorization, with the reference number as LIM/EIA/000137312021.**:** As such, a Basic Assessment Application process (BAR) will be undertaken to obtain an Environmental Authorization for the proposed project.

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(b) two kilometres or shorter in length;
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and (d) will be removed within 18 months of the commencement of development.

In terms of the National Environmental Management Act (No. 107 of 1998) (as amended) (NEMA), the proposed development triggered activities which require authorization from the competent authority before they can be undertaken. Furthermore, the National Environmental Management Act provides various measures for the prevention of pollution and ecological degradation, as well as for ecologically sustainable development to protect human health and the environment.

1.1 PROJECT BACKGROUND

The Thabazimbi Local Municipality through the Department of Energy, intents to electrify the Smashblock informal settlement which currently does not have electricity. Most of the house use firewood for cooking and solar for lighting. The initiative to electrify the Smashblock informal settlement came after the community protested requiring services in the area. Smashblock informal settlement in located approximately 20km north of Northam town in the Limpopo province. The settlement is adjacent Anglo-American Platinum's Tumela mine. There are currently ±10 000 non-electrified informal settlements in the area. Eskom currently has 22kV infrastructure in the eastern half of the settlement. The project will supply 15MVA residential load and some mines within the local Municipality. The closest substation to feed the new substation is Tussenin Traction substation owned by Eskom. An application for connection was filed to Eskom in 2019 by Thabazimbi Local Municipality. Capacity was confirmed to be available to supply Smashblock substation from Tussenin.

1.2 OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
(b) identify the alternatives considered, including the activity, location, and technology alternatives;
(c) describe the need and desirability of the proposed alternatives;
(d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:

(i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and

(ii) the degree to which these impacts—

(aa) can be reversed;

(bb) may cause irreplaceable loss of resources; and

(cc) can be managed, avoided or mitigated;

(e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—

(i) identify and motivate a preferred site, activity and technology alternative;

(ii) identify suitable measures to manage, avoid or mitigate identified impacts; and

(iii) identify residual risks that need to be managed and monitored.

1.3 BASIC ASSESSMENT PROCESS ORGANOGRAM

The Basic Assessment process should be undertaken for project activities that are included under Listing Notices 1 and 3. Impacts of these activities are more generally known and can often be mitigated or easily managed. The BA process must follow the procedure as prescribed in Regulations 19 to 20. The following diagram outlines the steps that should be followed in undertaking a BA process.

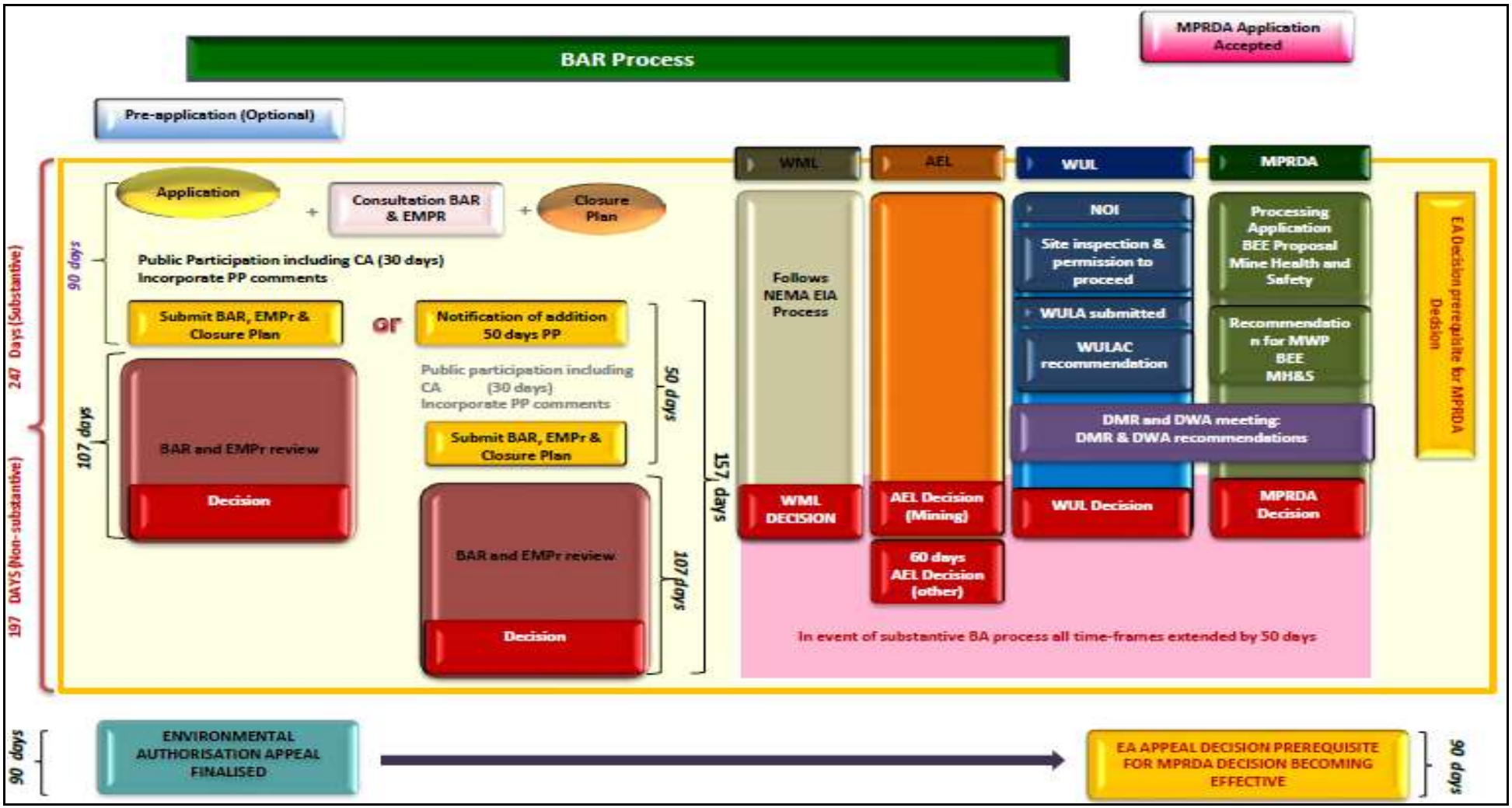

Figure 1: BA Process Organogram

2 EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER (EAP)

This report was prepared by Lesekha Environmental Consulting with all reasonable skill, care and diligence within the terms of the contract with the client. Lesekha Consulting is a multidisciplinary environmental management and consulting company with more than 15 years of experience in the field.

Lesego Senna is a Lead qualified Environmental Assessment Practitioner (EAP) managing and coordinating the EIA study of the project. Lesego holds the Bachelor Degree: in Natural Science majoring in Microbiology and Biochemistry. She also holds an Honours Degree: Environmental Sciences, Majoring in Environmental Impact Assessment and Earth Sciences – North West University (Potchefstroom Campus).

Lesego holds a certificate in Environmental Law (NQF level 7) with the following courses: Waste Management, Biodiversity Management, Waste Management, Heritage Assessment, Environmental law & Environmental Impact Assessment obtained from the Centre of Environmental Management at Potchefstroom University). She also holds a certificate in GIS and GPS course (NQF level 5) from the Free State University, with the following Modules: Spatial data Structures; Spatial data symbolisation and analysis and interpretation Map design. Lesego is a registered Environmental Scientist registered with the ***South African Council of Natural Scientific Profession SACNASP (Reg.No.400165/17).***

Details of the qualified EAPs involved in undertaking the BA Process are noted in Table 2 and the Curriculum Vitae (CV) of the relevant EAPs attached as Appendix A.

Table 3: The technical team

Team Member	Qualifications	Project Role
Lesego Senna	Bsc. (Honours) Environmental Sciences	Project Manager
Jennipher Sakaunda	Bsc. (Honours) Environmental Sciences	Environmental Assessment Practitioner
Kgomotso Mohaswa	Bsc. (Honours) Environmental Sciences	Environmental Assessment Practitioner

2.1 LOCATION OF THE OVERALL ACTIVITY

The 132kv Smashblock substation will be developed on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province.

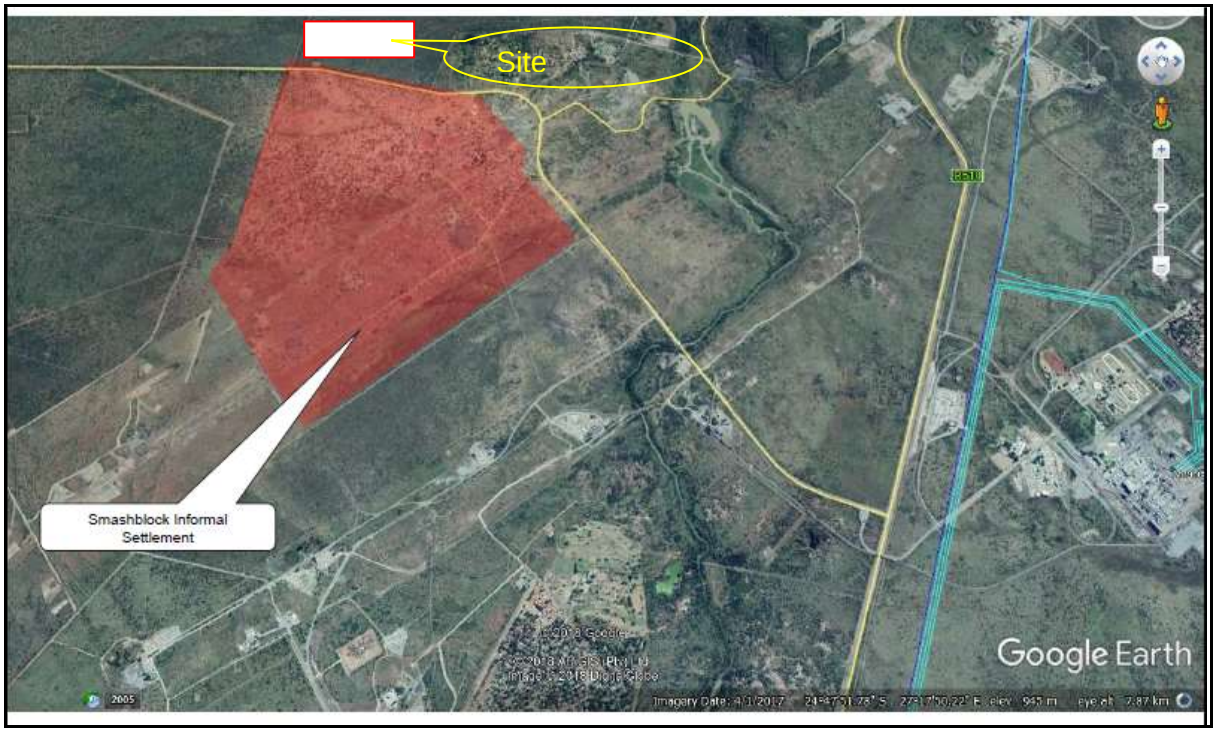

Figure 1: Locality Map.

2.2 LOCATION OF THE OVERALL ACTIVITY

Farm Name:	Portion 27 of Zwartkop Farm No.369 KQ
Application area (Ha)	1 ha
Province	Limpopo Province
Local Municipality	Thabazimbi Local Municipality
Ward No	Ward 4
Magisterial district	Waterberg District Municipality
Distance and direction from nearest town	20km North of Northam town.
21-digit Surveyor General Code for each farm portion	T0KQ0000000036900027
Coordinates:	**S 24° 46′ 41.46″ E 27° 16′ 31.12″**.

2.3 LOCALITY MAP

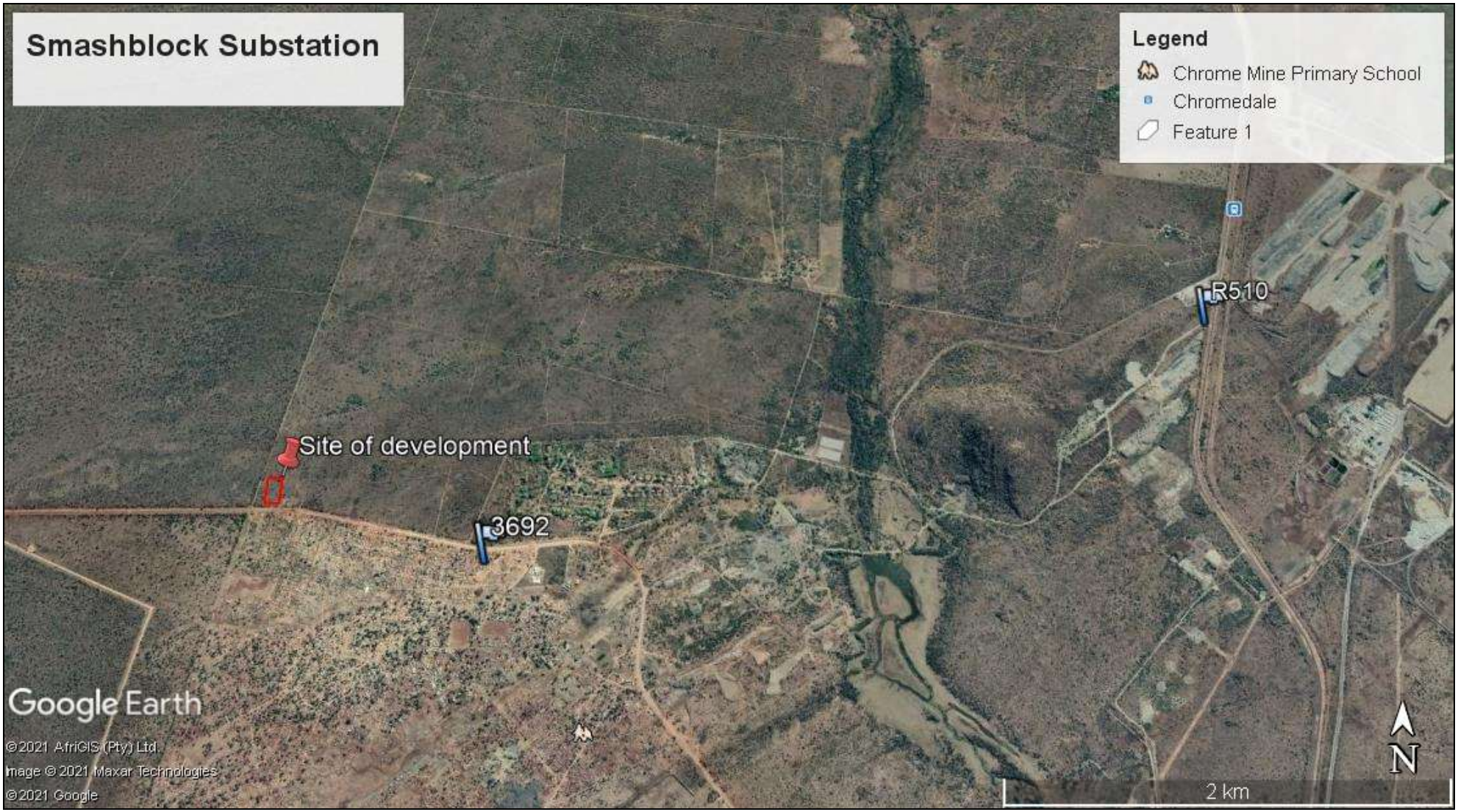

Figure 2: Locality Map for Smashblock Substation

2.4 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

The proposed development of a 132kv Smashblock substation on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality will entail the following:

- Earthworks and yard preparation 100m x 100m.
- Construction of substation building and other civil works.
- Substation Access Roads.
- Storm Water Control.
- Substation Steel Structure Works.

The implementation of this project will assist in supplying an expected 15MVA residential load and some mines within Thabazimbi locality. The substation will be supplied from Tussenin Traction 132kV substation, and it will link to the new substation via a 132kV overhead line. The substation will be designed to accommodate 2 x 20 MVA, 132/22 kV, YNd1 transformer bay equipment and second transformer is installed for redundancy. The substation will have 2*20MVA 132/22 kV YNd1 transformers. The n-1 criterion is used for the substation design. Eskom has provided an option on how Smashblock Substation can be connected to the existing Eskom's 132kV network by constructing 2x 3km 132kV feeder comprising of a Kingbird conductor from Amandel- Tussenin Traction line. See connection configuration below.

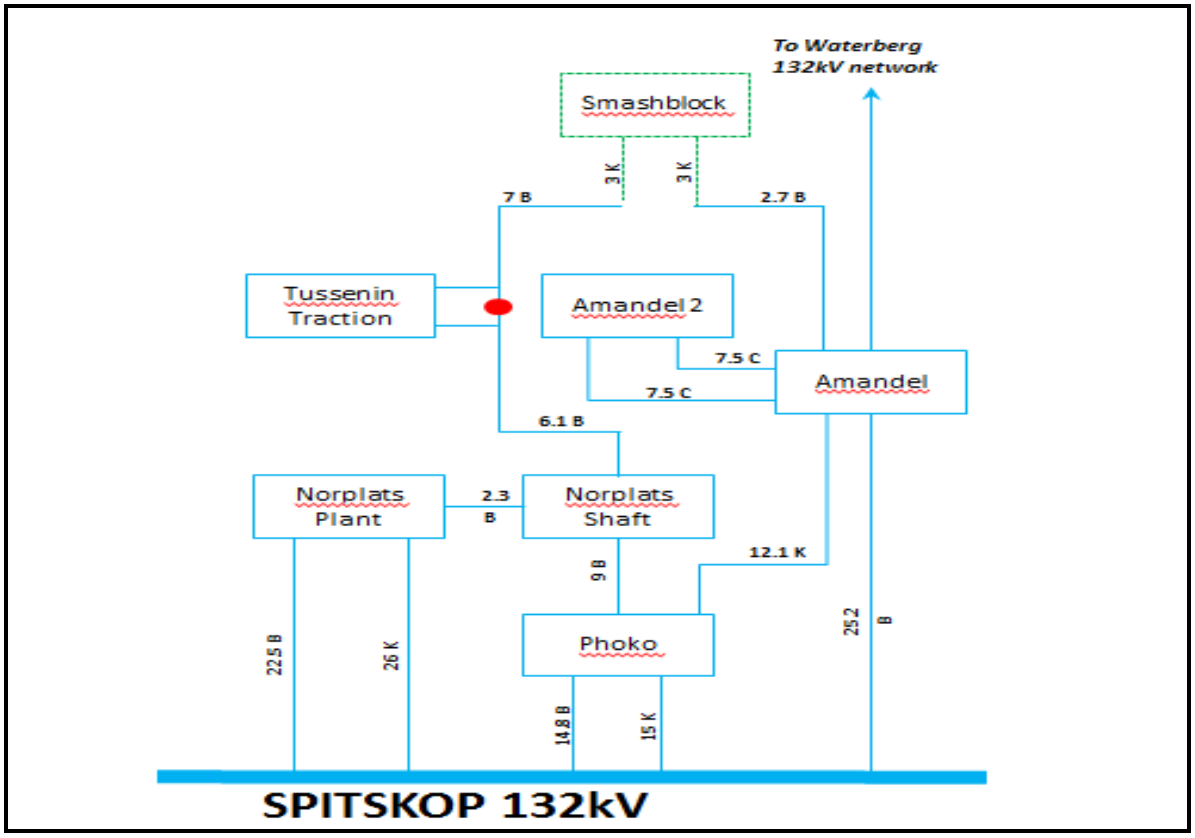

Figure 3: Connection of the Smashblock to the Eskom Existing Network

2.5 LISTED AND SPECIFIED ACTIVITIES TRIGGERED AND BEING APPLIED FOR ACTIVITIES

In terms of the Environmental Impact Assessment (EIA) Regulations (2014), promulgated in terms of the National Environmental Management Act, 1998 (NEMA), certain Listed Activities are specified for which either a Basic Assessment (GN R 983 and 984) or a full Scoping and EIA (GN R 985) is required. The following Listed Activities in Government Notice (GN) R 983 (Listing Notice 1) requiring a Basic Assessment (BA) Process are applicable to the proposed project:

Relevant notice	**Activity No (s)**	**Project description as per the listed activity**
R. 983, 08 December 2014	Activity No. 27: The clearance of an area of 1 hectares or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	The development will entail the clearance of one hectare of indigenous vegetation for the development and operation Smashblock substation.
R. 983, 08 December 2014	Activity No. 11: The development of facilities or infrastructure for the transmission and distribution of electricity— (i) outside urban areas or industrial complexes with a capacity of more than 33 but less than 275 kilovolts; or (ii) inside urban areas or industrial complexes with a capacity of 275 kilovolts or more, excluding the development of bypass infrastructure for the transmission and distribution of electricity where such bypass infrastructure is— (a) temporarily required to allow for maintenance of existing infrastructure; (b) two kilometres or shorter in length; (c) within an existing transmission line servitude; and (d) will be removed within 18 months of the commencement of development.	The project will entail the development and operation of the 132Kv Smashblock Substation.

2.5 LAND USE AND SERVICE PROVISION

The current zoning on this property is agriculture, therefore no rezoning application is needed.

2.6 SITE DESCRIPTION AND SITE ACCESS

Smashblock is an informal settlement of over 1 000 dwelling, mostly made from corrugated iron sheets and very few brick houses. There is no provision of services as the area is characterized by poor waste management. Piles of waste are visible along the access road and near the site of development. The community depends on firewood for cooking, and this has resulted in cutting of most of the big trees on the proposed site of development and the surrounds. Most of the households have solar system of lighting. Due to the prevailing dry condition the site is very dusty. Boreholes around the community are used to supply water for the community.

No new access to the site is planned. During construction all vehicle movement must be along existing roads 3692 road which connects the site to the R510 road. The site will not generate any significant traffic during both the construction and operational phase except for a temporary minor increase in heavy vehicle traffic during the construction phase.

Poorly disposed waste

Proposed Site of development

Housing in Smashblock

Picture 7: Existing access road

2.7 SOLID WASTE MANAGEMENT

An estimated quantity of 15m^3 of waste will be produced per month during the construction phase. All waste must be removed from the site and transported to a registered Landfill Site. Construction rubble shall be disposed of in pre-agreed demarcated spoil dumps that have been approved by the Project Engineer. Solid waste will be transported off the site to the municipal dumpsite for proper disposal. Construction solid waste will be separated according to type and stored appropriately in skips and drums. Minimal waste is expected for during the operational phase from the maintains work.

b) **Emissions into the atmosphere**

During construction, activities carried out by construction vehicles and machinery will result in dust being released into the atmosphere. Should dust pollution become a problem during the construction, dust control measures will be put in place (i.e. periodic wetting of exposed surfaces, temporary halt in dust generating construction activities during periods of high wind).

c) **Generation of noise**

Noise is expected during the operational and construction phase noise associated with normal construction activities i.e. vehicles, generators and plant equipment being used on the site. However, construction activities will as far as possible be limited to normal working hours (weekdays between 7am and 5 pm). Noise levels will be kept within the legislated limits for the area, in accordance with the requirements of the relevant national and local noise control statutes (e.g. 85dBA).

2.8 WATER USE

Water needs will be supplied from the existing borehole onsite.

2.10 NEED AND DESIRABILITY OF THE PROJECT

In 2012, the Government adopted the National Infrastructure Plan, wherein it highlighted that South Africa would be embarking on a process to accelerate infrastructure development, to deal with service delivery backlogs and to build a platform for future economic growth and employment. This infrastructure growth would be spearheaded by Strategic Infrastructure Projects (SIPs), which are largescale infrastructure projects that were also projected to have numerous environmental impacts, which in turn could trigger many EIAs. SIP 10 states that: Electricity Transmission and Distribution for all, has been identified as a major infrastructure development need by the Presidential Infrastructure Coordinating Committee (PICC). This project is therefore in line with the above-mentioned SIP.

The proposed activity will provide support to electrical infrastructure that will contribute to sustainable economic growth, provide for sustainable human settlements, and support the mining industry.

Eskom Holdings SOC Ltd is mandated by the South African Government to ensure the provision of reliable and affordable power to South Africa. Eskom's core business is in the generation, transmission (transport), trading and retail of electricity. The reliable provision of electricity by Eskom is critical for industrial development and related employment and sustainable development in South Africa. As electricity cannot practically be stored on a significant scale, power is generated and delivered over long distances at the instant that it is required. In South Africa, thousands of kilometres of high voltage Transmission lines (i.e. 765kV, 400kV and 275kV Transmission lines) transmit this power to Eskom's major substations. At these major substations, the voltage is downrated and distributed to smaller substations all over the country via Distribution lines (e.g. 132kV, 88kV and 66kV power lines). Here the voltage is down-rated further for distribution to industry, business, farms and homes. To maintain a reliable power supply within the entire network, the voltages at all substations are required to be within certain desired limits. If the network is operated at voltages which are below these limits, voltage collapse problems and power outages may be experienced. The proposed project is required to supply the Smashblock informal settlements and mine with bulk electricity at 132kV for their operations.

3 APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

The current assessment is being undertaken in terms of the National Environmental Management Act (NEMA, Act 107 of 1998)' EIA Regulations dated on the 04 December 2014, this makes provision for the identification and assessment of activities that are potentially detrimental to the environment, and which require authorization from the competent authority (the Department of Economic Development, Environment and Tourism. The Department of Economic Development Environment and Tourism decision will be based on the findings of the Basic Assessment Report and the site visits. The following is a list of all the applicable legislation, policies and/or guidelines of any sphere of government that are relevant to the application as contemplated in the EIA Regulations.

3.1 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO: 107 OF 1998)

The National Environmental Management Act (Act 107) of 1998 (NEMA) is the overarching framework for Environmental Legislation as well as the Regulations for Environmental Impact Assessment. An application for Environmental Authorization for the identified Listed Activities were lodged with the Department of Economic Development Environment and Tourism Activities in terms of NEMA.

According to National Environmental Management Act 1998 (Act no 107 of 1998), construction of the Smashblock substation triggered NEMA 107 of 1998 and the EIA regulations GN: 983 of 08 December 2014. In terms NEMA states: "every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring". If such degradation/pollution cannot be prevented, then appropriate measures must be taken to minimise or rectify such pollution. The Thabazimbi Local

Municipality as the custodians of the site, therefore, have a responsibility, to ensure that the EIA process conform to the principles of NEMA and that the objective of the EIA process is to identify and assess environmental impacts and to manage these impacts. The final objective is to ensure that this development remains environmentally sustainable.

3.2 NATIONAL FOREST ACT (ACT NO: 84 OF 1998)

The site has vegetation and there are indigenous, and no protected trees are on the site. The purposes of this Act are to promote the sustainable management and development of forests for the benefit of all; provide special measures for the protection of certain forests and trees; promote the sustainable use of forests for environmental, economic, educational, recreational, cultural, health and spiritual purposes.

National Forest Act stated that it's prohibited of destruction any indigenous tress in any natural forest without a license or permit. In terms of Section 7(1) no person may cut, disturb, damage or destroy any indigenous living tree in, or remove or receive any such tree from a natural forest except in terms of (a) a license issued under subsection (4) the minister may issue a license to cut, damage or destroy any indigenous, living tree in or remove or receive ant such tree from a natural forest. (b) An exemption from the provision of this subsection published by the minister in the Gazette on the advice of the council. Clearing of vegetation of will be done to an extend of 1 ha. it is the responsibility for applicant the site is rehabilitated using indigenous trees.

3.3 CONSTITUTION OF SOUTH AFRICA 108 OF 1996

This application considers the Environmental and Social-Economic conditions as set out in Section 24 of the Constitution of South Africa (No 108 of 1996). In terms of section 7, the state is obliged to respect, promote and fulfill the rights in the Bill of Right. The environmental right states that:
Everyone has the right-

- To an environmental that is not harmful to their health or well-being; and
- To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
    - Prevent pollution and ecological degradation
    - Promote conservation
    - Secure ecological sustainable development and use of natural resources promoting justifiable economic and social development.

3.4 NATIONAL HERITAGE RESOURCES ACT 1999 (ACT NO: 25 OF 1999)

The National Heritage Resources Act provides for an integrated and interactive system for the management of the National Heritage Resources and empowers civil society to nurture and conserve their heritage resources so that they may be bequeathed to future generations. SAHRA is tasked with

protecting heritage resources of national significance. The site does not have any items or recourses of heritage importance.

3.5 OCCUPATIONAL HEALTH AND SAFETY ACT 1993 (ACT 85 OF 1993)

The OHSA stated that every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health and safety of his employees. Personal Protective Equipment's (PPE) refers to any equipment worn to protect the user whilst they are working. It includes an array of equipment such as safety glasses/goggles/visors, gloves, lab coats, respiratory masks, ear plugs/ear defenders and safety shoes. PPE must be worn after all other methods of reducing risk have been properly considered. PPE only protects the wearer from harm, and is liable to failure due to incorrect use, damage or being forgotten entirely. The PPE that must be used will be specified in the Risk Assessment for the activity. The employees at the Smashblock substation during the construction and operational phase must wear the correct PPE all the time.

3.6. NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT 39 OF 2004

The NEMA Air Quality represents a distinct shift from exclusively source-based air pollution control to a holistic and integrated effects –based air quality management. This approach has the following basis: the prevention and minimization of atmosphere emissions and the management and reduction of impacts associated with unavoidable releases. The implementation of pollution prevention, impact mitigation and co-operative air quality governance varies between different sectors. Within the industrial sector, pollution prevention can take various forms including innovative product design, efficient use of natural resources and shift to cleaner production methods. Insignificant impacts on air quality expected on this project.

3.7NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT

During construction various type of waste are expected to be generated from the site, in terms of National environmental Management Act: Waste part 5, section 21 states that any person who stores waste must at least take steps, unless otherwise provided by the Act, to ensure that:

(a) The containers, in which any waste is stored, are intact and not corroded or in any other way rendered unfit for the safe storage of waste.
(b) Adequate measures are taken to prevent accidental spillage or leaking
(c) Pollution of the environment and harm to health are prevented.

3.8 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE BILL 39 OF 2007

The draft Bill seeks to reform the law regulating waste management to protect human health and well-being, and the environment by providing reasonable measures for:

- The minimization of the consumption of natural resources.
- The avoidance and minimization of the generation of waste.
- The recovery, re-use and recycling of waste
- The treatment and safe disposal of waste as a last resort.
- The prevention of pollution and ecological degradation.
- Promoting and ensuring the effective delivery of waste services
- Remediating land where contamination presents, or may present, a significant risk of harm.

3.9 NATIONAL WATER ACT 36 OF 1998

The National Water Act, No. 36 of 1998 (NWA) was promulgated on 20 August 1998. The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed, and controlled. In terms of Section 19 of the Act owners/ managers/ people occupying land on which any activity or process undertaken which causes or is likely to cause pollution of a water resource must take all reasonable measures to prevent any such pollution from occurring, continuing, or recurring. Notice is also herewith given in terms of section 21 of the National Water Act, 1998 (Act 36 of 1998) with regards to the application for a Water Use License and/or Registration of the water use activities associated with the proposed development, which includes:

- Section 21(a): taking water from a water resource.
- Section 21(b): storing water.
- Section 21(c): impeding or diverting the flow of water in a watercourse.
- Section 21(e): engaging in a controlled activity (irrigation).
- Section 21(g): disposing of waste in a manner which may detrimentally impact on a water resource; and
- Section 21(i): altering the bed, banks course or characteristics of a watercourse.

The Act stipulates that if an industry is acquiring water from a municipality or other local supplier, it is the responsibility of that supplier to obtain the necessary permits. Any private well or borehole sunk for the abstraction of groundwater must be reported to the regulatory authority.

The National Water Act is the principal piece of South African legislation governing wastewater management. Under the Act there are several important issues to note:

- Industrial and sanitary wastewater cannot be directly or indirectly discharged to stormwater drainage systems, surface or groundwater,
- Persons storing chemicals and oils must take the necessary precautions to prevent leakage into stormwater drains or water courses, unless specifically authorized by the regulatory authority;

- It is generally prohibited to allow stormwater to enter sewer systems;
- Industrial effluents may be discharged to sewer only with the permission of the regulatory authority. There are site effluent discharge limits that if exceeded can result in a fineable offence;
- It is an offence to willfully or negligently pollute surface water or groundwater;
- In the event of a pollution incident, the offending party is obliged to report the incident to the regulatory authority;
- The regulatory authority can take the necessary steps to prevent the pollution of water resources and can recover the costs of clean-up from the polluter. Local by-laws can also require a facility that stores or handles environmentally hazardous materials that could pollute stormwater runoff, rivers, water courses etc. to take 'adequate precautions' to prevent the spillage or seepage of such materials into the environment.

3.9.1 Water supply

The National Water Act 36 of 1998 ensures that water resources are adequately protected, used, developed, conserved and controlled. The Act deals with the development of strategies to facilitate the proper management of water resources, provides for the protection of the water resource, the regulation of the use of water, for financial provision, catchment management agencies, water use associations, Advisory committees, international water management, government waterworks, dam safety, access to and rights over water, monitoring and assessment and information, appeals and dispute resolution. Under the Act, a facility is required to obtain the necessary permits for water usage and the disposal of wastewater from the authority responsible for the administration of the Act, namely the Department of Water & Sanitation (DWS).

3.10 Pollution

Section 19 of the National Water Act deals with pollution prevention and remedying effects, and in particular the situation where pollution of a water resource occurs or might occur because of activities on land. The party who owns controls, occupies or uses the land in question is responsible for taking measures to prevent pollution of water resources. If these measures are not taken, the catchment management agency concerned may do whatever is necessary to prevent the pollution or to remedy its effects, and to recover all reasonable costs from the persons responsible for the pollution.

Section 31A of the Environmental Conversation Act empowers the regulatory authority to undertake action if a person or company carries out any activity that results in significant damage to the environment e.g. surface and groundwater pollution. The costs of remedial work can be recovered from the polluter. Currently there are no soil and groundwater clean-up guidelines.

3.11 HAZARDOUS MATERIALS MANAGEMENT

The Hazardous Substances Act 15 of 1973 governs the control of substances that may cause ill health or death in humans by reason of their toxic, corrosive, irritant, flammability or pressure effects. The Act regulates the storage, handling, labeling and sale of Group I, II, and III hazardous substances. A license is required for an operation that stores, handles and sells. Group I substances. Regulations controlling the 'Conveyance of Hazardous Substances by Road tanker' have been promulgated under the Act. The Fire Brigade Services Act 99 of 1987 regulates the storage, handling and transport of flammable gases, flammable liquids and flammable solids through local by-laws.

3.17 ENVIRONMENT CONSERVATION ACT NO. 73 OF 1989

The main purpose of this Act is to provide for the protection of the natural environment (Section 16) to control environmental pollution by prohibiting littering and controlling the removal of littering and controlling waste management (Section 20) where the owner of a disposal site is required to apply for a permit from the minister of Water Affairs to operate such a facility. The Act further provides for the control of activities which may have a detrimental effect on the environment (Section 21). The Act defines a disposal site as:
"A site used for the accumulation of waste with the purpose of disposing or treatment of such waste." Sections 24 to 28 of the Act contain regulations regarding waste management, littering, noise, vibration and shock, environmental impact reports, limited development areas and general regulatory powers.

3.13 SANS 10400 APPLICATIONS OF THE NATIONAL BUILDING REGULATIONS

The application of the National Building Regulations contains performance parameters relating to fire safety, sanitation systems, moisture penetration, structural safety, serviceability, and durability. It also considers how the above can be established to reflect social expectations in a manner which supports sustainable development objectives.

3.14 NATIONAL VELD AND FOREST FIRE ACT (ACT NO. 101 OF 1998)

The applicant should provide fire breaks in accordance with Chapter 4 of the National Veld and Forest Fire Act (Act 101 of 1998) and should consider amongst other the following:

- Fire rating
- Consultation of adjoining owners and the fire protection association (if any)
- be present at such burning or have an agent attend.

The fire break should be:

- wide and long enough to prevent to have a reasonable chance of preventing a veldfire from spreading to or from neighboring land;

- it does not cause soil erosion; and is reasonably free of inflammable material capable of carrying veldfire across it.

3.15 STRATEGIC INFRASTRUCTURE PROJECT (SIP)

The Presidential Infrastructure Co-ordination Commission (PICC) was inaugurated in September 2001, bringing in key Ministers, Premiers and Mayors for the first time into a joint forum to promote infrastructure co-ordination and decision making. Resulting from the PICC work plans for future projects and infrastructure initiatives from state owned enterprise, national, provincial and local departments have been clustered, sequenced and prioritised into 18 strategic integrated projects (SIPs). Together these SIPs unlock the economic development and maximise the returns on investment in the form of increased jobs, growth and economic potential. This will be a continuous process creating a pipeline of projects into the future that gives substance to the long term NDP, and certainty to South Africa's Development. This Project is a SIP 10 and SIP 1 project. SIP 10: Electricity transmission and distribution for all.

- Expand the transmission and distribution network to address historical imbalances, provide access to electricity for all and support economic development.
- Align the 10-year transmission plan, the services backlog, the national broadband roll-out and the freight rail line development to leverage off regulatory approvals, supply chain and project development capacity.

3.16 WATERBERG DISTRICT MUNICIPALITY INTEGRATED DEVELOPMENT PLAN (2020/2021)

The Waterberg District Municipality's Local Economic Development (LED) strategy will be realigning its plans with SIP 1, as indicated below.

3.17 LIMPOPO CONSERVATION PLAN (V2)

The Limpopo Conservation Plan is a spatial tool that forms part of a broader set of national biodiversity planning tools and initiatives that are provided for in national legislation and policy. The purpose of the Limpopo Conservation Plan was to develop a map of Critical Biodiversity Areas (CBA) and Ecological Support Areas (ESA), the spatial component to provincial bioregional plan. In alignment with the principles of NEMA and NEMBA, the Limpopo Conservation Plan (v2) was designed to support integrated development planning and sustainable development by identifying an efficient set of CBAs that are required to meet national and provincial biodiversity objectives, in a configuration that is least conflicting with other land uses and activities. Therefore, the project must:

- ❖ aligned with provincial spatial planning guidelines and targets.
- ❖ not cause a threat to any endangered ecosystems and must protect and promote biodiversity.
- ❖ assess the impacts of the proposed development on endangered ecosystems.

3.18 LIMPOPO PROVINCE SPATIAL DEVELOPMENT PLAN (2015)

The identified key sectors in the province (Agriculture, Mining, Tourism and Manufacturing) combined with opportunities identified by the municipalities which could assist to stimulate economic growth, poverty reduction and overall economic impact should be supported wherever possible. Economic development opportunities are the key determinant in the settlement patterns. Economic development, in turn, typically responds to the availability of Environmental Capital (e.g. water, suitable agricultural soil, mining resources, etc.) and Infrastructural Capital (e.g. roads, electricity, railway lines, bulk engineering services, etc.). The Thabazimbi local Municipality intents to electrify the Smashblock community and the project will unlock economic opportunities within the Limpopo Province and are in line with the principles of the PSDF.

4. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE ALTERNATIVES. (THE ENVIRONMENTAL ATTRIBUTES DESCRIBED MUST INCLUDE SOCIO-ECONOMIC, SOCIAL, HERITAGE, CULTURAL, GEOGRAPHICAL, PHYSICAL AND BIOLOGICAL ASPECTS)

4.1. BASELINE ENVIRONMENT

Type of environment affected by the proposed activity.

4.1. 1 DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE

The site is located along the 3952 Road a gravel road connects the site to the R 510road.

4.1.2. CLIMATE & PRECIPITATION

Climatically, the area may thus be described as semi-arid. Daily temperatures are warm to hot, with a daily maximum average of 27°C to 33°C, but may reach as high as 45°C. The daily minimum average varies between 8°C and 12°C. The average annual rainfall is approximately 450mm, occurring in the summer as thunderstorms. Rainfall is strongly seasonal, with most rainfall occurring as thunderstorms during the summer period of October to April.

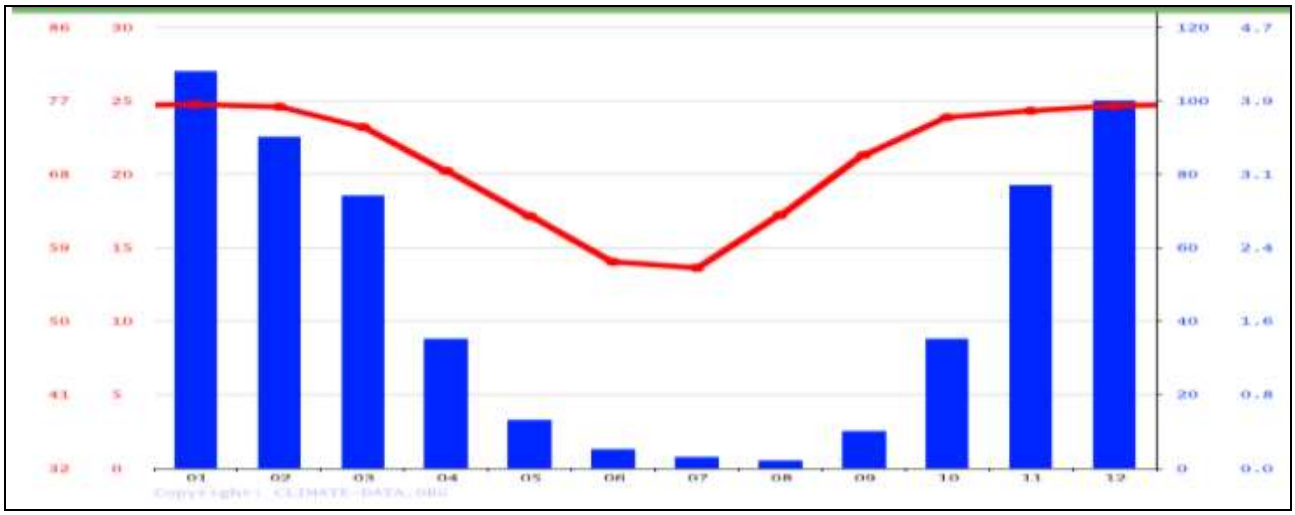

Figure 4: Thabhazimbi Climate

	January	February	March	April	May	June	July	August	Septem-ber	October	November	December
Avg. Temperature °C (°F)	24.7 °C (76.5) °F	24.6 °C (76.2) °F	23.2 °C (73.8) °F	20.2 °C (68.4) °F	17.1 °C (62.9) °F	14 °C (57.3) °F	13.6 °C (56.5) °F	17.2 °C (63) °F	21.3 °C (70.3) °F	23.9 °C (75) °F	24.3 °C (75.7) °F	24.6 °C (76.4) °F
Min. Temperature °C (°F)	19.6 °C (67.3) °F	19.5 °C (67.2) °F	18 °C (64.4) °F	14.6 °C (58.3) °F	10.4 °C (50.7) °F	6.9 °C (44.5) °F	6.1 °C (43.1) °F	9.2 °C (48.6) °F	13.3 °C (55.9) °F	16.6 °C (61.8) °F	18.2 °C (64.7) °F	19.3 °C (66.7) °F
Max. Temperature °C (°F)	29.9 °C (85.9) °F	29.7 °C (85.5) °F	28.5 °C (83.3) °F	25.8 °C (78.5) °F	23.7 °C (74.6) °F	21.1 °C (69.9) °F	21 °C (69.7) °F	24.8 °C (76.7) °F	28.9 °C (84) °F	30.8 °C (87.5) °F	30.4 °C (86.7) °F	30.1 °C (86.2) °F
Precipitation / Rainfall mm (in)	108 (4.3)	90 (3.5)	74 (2.9)	35 (1.4)	13 (0.5)	5 (0.2)	3 (0.1)	2 (0.1)	10 (0.4)	35 (1.4)	77 (3)	100 (3.9)
Humidity(%)	57%	56%	57%	57%	50%	51%	46%	37%	32%	37%	46%	56%
Rainy days (d)	9	7	7	4	2	1	1	0	1	5	8	9
avg. Sun hours (hours)	9.9	9.8	9.2	8.8	9.2	9.0	9.2	9.8	10.0	10.4	10.3	10.1

Figure 5: temperature range in Thabhazimbi

4.1.3. TOPOGRAPHY/ TERRAIN MORPHOLOGY

The topography of the eastern parts of the municipality area varies from plains which have a moderate to low relief to more complex lowlands, hills and mountains to closed hills and mountains with relief varying from moderate to high.

4.1.4. HYDROLOGY

The Crocodile (West) Marico water management area is divided into six sub-areas by the Department of Water Affairs and Forestry for water resources planning purposes. The delineation was largely based on practical considerations such as size and location of sub-catchments, homogeneity of natural characteristics, location of dams, and economic development. The Thabazimbi municipality area is

situated in the “Lower Crocodile Water sub-management area”. This sub-management area represents the remainder of the Crocodile River catchment, downstream of the confluence with the Elands River. The river flows in a north/north-westerly direction until the confluence with the Marico River. After the confluence the river is known as the Limpopo River. The Lower Crocodile River has two large tributaries, namely the Sand River and the Bierspruit which join the Crocodile River west of the town of Thabazimbi. Irrigation is the dominant water demand in this sub-area.

4.1.5. AQUATIC ECOLOGY

The River Health Programme (RHP) was initiated in 1994 in response to the need to monitor, assess and report on the ecological state of river ecosystems based on their biological condition in relation to all the human-induced disturbances affecting them. The Department of Water and Sanitation, as the legal custodians of water resources in South Africa, has played the leading role in initiating and designing the RHP. The RHP makes use of a suite of ecological indicators that have specifically been selected for their ability to integrate the impact of multiple disturbances on the state of rivers. A river health categorization is used to provide a simplified user-friendly key to a much more intricate and complex process of assessing the Eco-Status of a river. Each river health category relates to a level of ecosystem health, which in turn relates to the potential of the river to support a particular range of ecosystem services. The overall Eco-Status of the Crocodile (West) Marico WMA is POOR. Some parts of the WMA are still in good to natural condition (see Table below for more information). These are found primarily in the headwaters of catchments with very little development and human impact. There are several management responses that have been identified - some of these needs to focus directly on the riparian zone and instream habitat, some need to be addressed at the catchment level and others are directly related to water use and quality.

4.1.6. GEOLOGY AND SOILS

The Thabazimbi area is generally underlain by the sedimentary and chemical sedimentary rocks of the Transvaal Supergroup. Diabase dykes and sills locally intruded the sediments of the Transvaal Supergroup. The area was structurally deformed, and this deformation is manifested by the presence of folding and gentle cross folding that led to the syntaxes of the ridges near Thabazimbi, major east-west oriented thrust faults, smaller scale reverse faults, northwest oriented shear faults and smaller folding. The Transvaal Supergroup in the area is subdivided in the chemical sediments of the Chuniespoort Group and the sedimentary and volcanic rocks of the Pretoria Group. The Pretoria Group in the area is comprised of formations which consist of quartzite and/or shale except for the volcanic Hekpoort Formation. The Rooihoogte Formation is normally found at the base, followed upwards by the Timeball Hill, Boshoek, Hekpoort, Dwaalheuwel, Strubenkop, Daspoort, Silverton, Magaliesberg and Rayton Formations. The geology in the municipality has some of the richest mineral deposits in the world. North of the Magaliesberg the geology is largely dominated by the Bushveld Igneous Complex. Formations in this complex are extremely rich in minerals and several mines have been developed in

the area as a result. Platinum, chrome and vanadium mining, are taking place at a large scale. The area mainly consists of sedimentary rock. Extensive mining activities occur mainly in a circular belt around the perimeter of the Bushveld Igneous Complex. These mines are mainly focused on the platina group of metals which are in great demand on the world market now, as well as granite mining. Soil types of the Crocodile (West) Marico WMA are broadly classified as Moderate to deep sandy loam. Most of the clayey loam soils are highly suitable for commercial agriculture when sufficient water is provided.

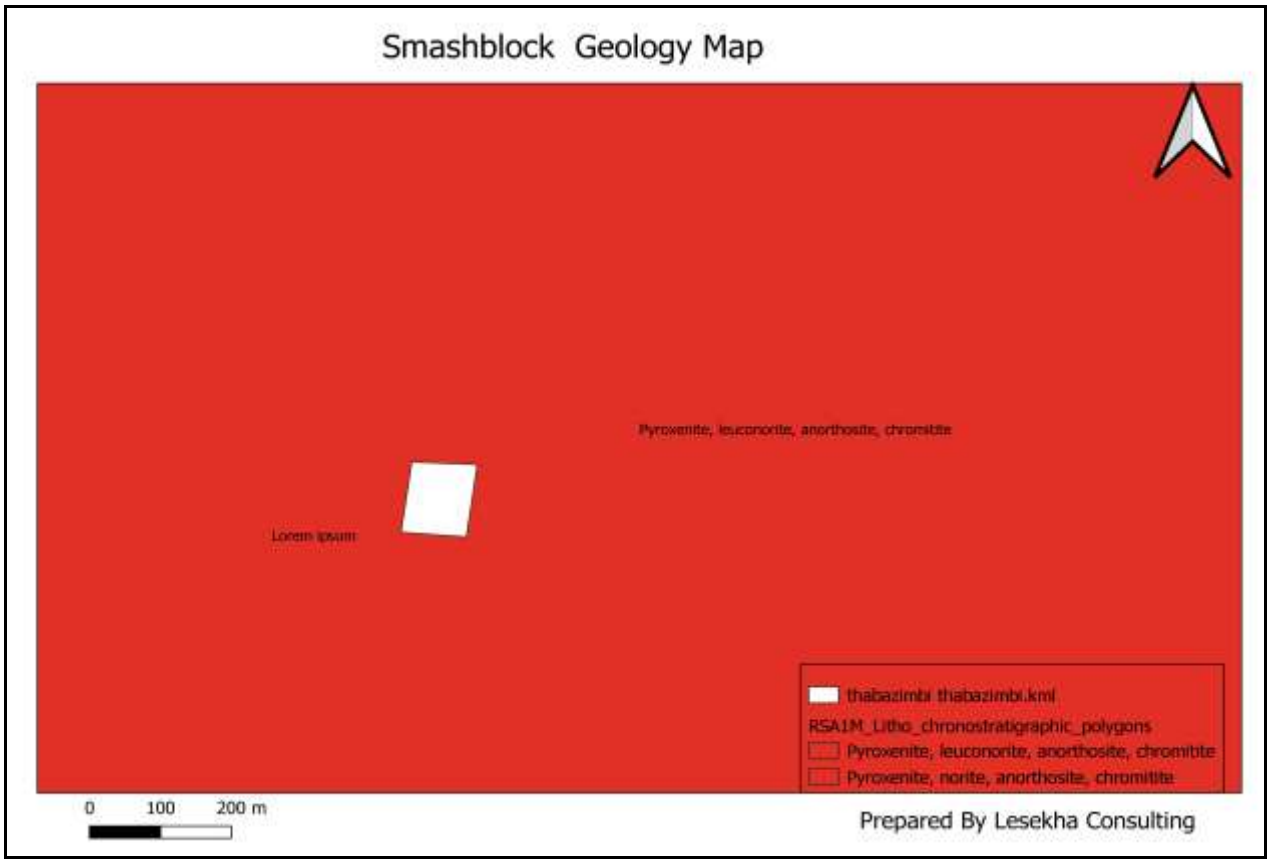

Figure 6: Geology Map

4.1.7. FLORA

According to Low and Rebelo's (1998) vegetation map of South Africa, the study area is dominated by the Mixed Bushveld vegetation type. The vegetation found here varies from dense short bushveld to a more open tree savanna. This vegetation type is found in areas where the rainfall varies between 350 and 650 mm/annum and the altitude comprises low relief plains at an altitude range of 700 to 1000 mass per index. The northern parts of the municipal area are dominated by Mixed Bushveld, Sweet Bushveld and Mopane Bushveld vegetation types. The central and western parts are dominated by Mixed Bushveld, while North-eastern Mountain Grassland and Mixed Bushveld vegetation types are found in the eastern parts. According to Acocks (1975) the Mixed Bushvled veld type comprises various variations and transitions.

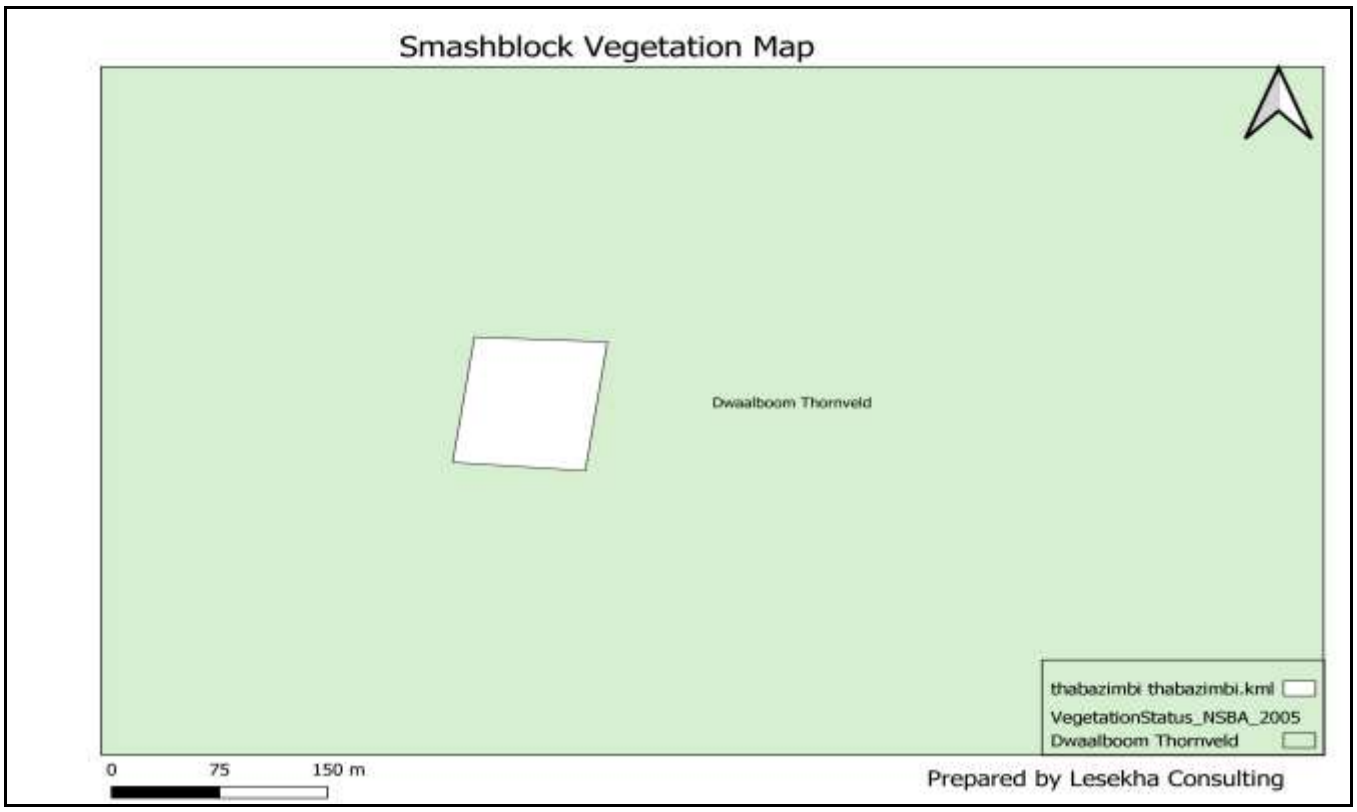

Figure 7: Vegetation Map

4.1.8. FAUNA

The red data list of mammals that could potentially occur within the municipal area, is provided below. None of these were seen on the proposed site.

RED DATA LIST - MAMMALS

COMMON NAME	BOTANICAL NAME
Samango monkey	*Cercopithecus mitis labiatus*
Leopard Panthera	*pardus melanotica*
African civet	*Civettictis civetta australis*
Rare Meller's mongoose	*Rhychogale meleri Langi*
Endangered Roan Antelope	*Hippotragus equinus equinus*
Honey badger	*Mellivora capensis capensis*
African Wild Cat Felis	*Iybica cafra*
Vulnerable Antbear	*Orycteropus afar afar*

4.1.9. BIODIVERSITY AND NATURAL RESOURCES

Historical problems experienced with the Municipal waste disposal facilities that are poorly situated, designed and operated, impacts negatively on both the environment and quality of life. Impacts of waste within TLM is closely relate to the impact on air, soil and water (surface and underground). Majority of the settlements, especially informal depend on wood harvesting for energy, wild fruits and

plants for medicine to sustaining their livelihoods. In managing its biodiversity the Municipality ineffectively rely merely on the Provincial Biodiversity/conservation plan and thus there is a need for a localized biodiversity and conservation plan to enable the municipality to effectively manage its natural resources. Moreover, the development of the Integrated Environmental Management Plan (IEMP) is critical for TLM to protect its natural resources.

4.1.10. AIR QUALITY

Thabazimbi Municipal area (under the Waterberg-Bojanala Priority) is declared an air quality priority hotspot in terms of the Section 18(1) of the National Environmental Management: Air Quality Act (Act 39 of 2004). This means that the quality of air in the area is above the National minimum standards for clean air. To prevent air pollution and ecological degradation, the municipality is mandated to develop an Air Quality Management Plan. The Municipality currently utilizes the District AQMP. This set out mechanisms and systems to attain compliance with ambient air quality standards. The main 144 source of air pollution is the burning of fossil fuels for energy. Fugitive dust and mining activities also contributes to the poor air quality in the area. The Municipality currently do not monitor the local industries in terms of air quality compliance, especially mining. The Air Quality Officer employed under the Waterberg District Municipality oversees the enforcement of the Air Quality Management Plan in the mining sector. However, to effectively implement the Air Quality Management Plan, the Municipality still needs to improve on the development of programmes relating to addressing air quality issues in the area.

4.2. SOCIO-ECONOMIC PROFILE

The site is within the Limpopo Province adjacent to the border of the NorthWest Province and within the Thabazimbi Local Municipality. The municipality is classified as Category B and is approximately 2 hours from Tshwane and close to the international border with Botswana.

4.2.1 POPULATION

The Thabazimbi Municipality has a total population of 85 234 in 2011 and 96 232 in 2016 (Statistics South Africa, 2011). The population is dominated by males with 59% of the population being male and females comprising 41%. Eighty four percent of the population in the municipality is black African. The next largest demographic group is white at 15%. The remaining 1% minority is made up of coloured, Indian or Asian and other. The age distribution revealed that the young adults make up the highest population component with the highest concentrations occurring between 25-34 years.

4.2.3. ECONOMY

The dominant economic sector in Thabazimbi Local Municipality is mining, which contributes to more than 90.98% of the GVA of the municipality. This industry employs more than 58.01% of Thabazimbi's people. All other economic sectors contribute less than 15% each of the GVA of Thabazimbi Local Municipality (Statistics South Africa, 2011). The Thabazimbi Local Municipality has the lowest average annual economic growth rate (2008-2011) in comparison with all 8 of the metropolitan municipalities.

4.2.4. EMPLOYMENT, EDUCATION, INCOME AND POVERTY

The percentage of population with no schooling decreased between 2001 and 2011 by 11.15%. However, the unemployment rate was 20.6%. Approximately 50.5% of the working age population are employed with an average annual income of R57 500 (Statistics South Africa, 2011). Households in Thabazimbi Local Municipality are relatively poor with almost 13.98% earning no income at all and 83.87% of the municipality earns less than R12 800/month. There has been significant growth in the income bracket earning between R3 500 and R12 800/month.

BASIC ASSESSMENT REPORT - EIA REGULATIONS, 2014

Basic Assessment report in terms of the Environmental Impact Assessment Regulations, 2014, promulgated in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended.

File Reference Number:	LIM/EIA/000137312021.
	(For official use only)
NEAS Reference Number:	
Date Received:	
Due date for acknowledgement:	
Due date for acceptance:	
Due date for decision	

Kindly note that:

1. The report must be compiled by an independent Environmental Assessment Practitioner.

2. The report must be typed within the spaces provided in the form. The size of the spaces provided is not necessarily indicative of the amount of information to be provided. The report is in the form of a table that can extend itself as each space is filled with typing.

3. Where applicable **tick** the boxes that are applicable in the report.

4. The use of "not applicable" in the report must be done with circumspection because if it is used in respect of material information that is required by the Department of Economic Development, Environment and Tourism as the competent authority (Department) for assessing the application, it may result in the rejection of the application as provided for in the regulations.

5. An incomplete report may be returned to the applicant for revision.

6. Unless protected by law, all information in the report will become public information on receipt by the department. Any interested and affected party should be provided with the information contained in this report on request, during any stage of the application process.

7. The Act means the National Environmental Management Act (No. 107 of 1998) as amended.

8. Regulations refer to Environmental Impact Assessment (EIA) Regulations of 2014.

10. This application form must be handed in at the offices of the Department of Economic Development, Environment and Tourism:-

Postal Address:	**Physical Address**:
Central Administration Office Environmental Impact Management P. O. Box 55464 **POLOKWANE** 0700	Central Administration Office Environmental Affairs Building 20 Hans Van Rensburg Street / 19 Biccard Street **POLOKWANE** 0699
Queries should be directed to the Central Administration Office: Environmental Impact Management:- **For attention:** Mr E. V. Maluleke **Mobile:** 082 947 7755 **Email:** malulekeev@ledet.gov.za	

View the Department's website at http://www.ledet.gov.za/ for the latest version of the documents.

SECTION A: ACTIVITY INFORMATION

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

If YES, please complete the form entitled "Details of specialist and declaration of interest" or appointment of a specialist for each specialist thus appointed:

Any specialist reports must be contained in Appendix D.

1. ACTIVITY DESCRIPTION

Describe the activity, which is being applied for, in detail[1]:

The proposed development of a 132kv Smashblock substation on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province. The development will entail the following:

- Earthworks and yard preparation 100m x 100m.
- Construction of substation building and other civil works.
- Substation Access Roads.
- Storm Water Control.
- Substation Steel Structure Works.

The project will supply 15MVA residential load and some mines within Thabazimbi local Municipality. The site is located 26km North East of Thabazimbi Town. The extend of the proposed site is one hectare.

2. FEASIBLE AND REASONABLE ALTERNATIVES

"alternatives", in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to—

(a) **the property on which or location where it is proposed to undertake the activity;**

No other location alternatives were considered. The proposed Smashblock Subsation will be developed on Portion 27 of Zwartkop Farm No.369 KQ within the jurisdiction of the Thabazimbi Local Municipality in the Limpopo Province

(b) the type of activity to be undertaken.

No activity alternatives were considered. The project will entail the development of a 132kv substation.

(c) the design or layout of the activity

No design layout alternatives were considered. The site layout is below.

[1] Please note that this description should not be a verbatim repetition of the listed activity as contained in the relevant Government Notice, but should be a brief description of activities to be undertaken as per the project description.

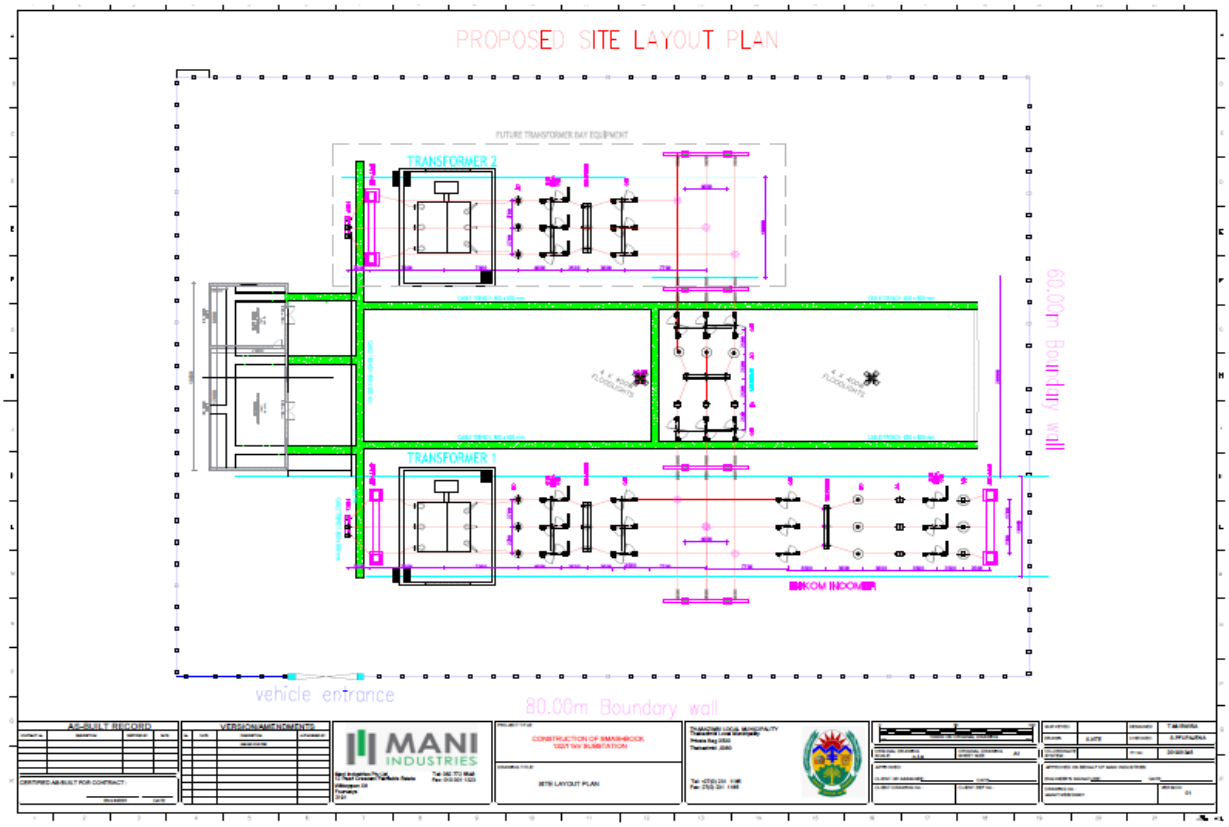

Figure 8: Site layout

(d) the option of not implementing the activity.

The no-go option entails not constructing the 132kv substation on the proposed site, should the development of the facilities not go on the property will remain vacant. The Thabazimbi Local Municipality would not have achieved its vision to improve the rural economy through agriculture. No creation of both temporary and permanent jobs during construction and operation would be achieved to the poverty-stricken community of Smashblock. No contribution will be made to the upliftment of the community and infrastructure development

It is suggested that to maintain the status quo is not the best option for the macro environment. The reliable provision of electricity is critical for industrial and mining development and related employment, sustainable development, and human settlements in South Africa. As mentioned, the electricity supply infrastructure is needed to supply the mining and the Smashblock community. Should the no go alternative be implemented the community will remain to be at risk of the shacks catching fire from the use of paraffin stoves and gas stoves. The community will continue to cut trees to use as fire wood.

The No-Go Option is therefore not the best practicable environmental option. Thus, if not developed this positive impact will not be seen.

Describe alternatives that are considered in this application. Alternatives should include a consideration of all possible means by which the purpose and need of the proposed activity could be accomplished in the specific instance taking account of the interest of the applicant in the activity. The no-go alternative must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment. After receipt of this report the Department may also request the applicant to assess additional alternatives that could possibly accomplish the purpose and need of the proposed activity if it is clear that realistic alternatives have not been considered to a reasonable extent.

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

3. ACTIVITY POSITION

Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the Hartebeeshoek 94 WGS84 spheroid in a national or local projection. List alternative sites, if applicable.

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1[2] (preferred or only site alternative)	**24°**	**46'**	**41.46"**	**27˚**	**16'**	**31.12 "**
Alternative S2 (if any)	**N/A**					
Alternative S3 (if any)	**N/A**					

In the case of linear activities:

Alternative:	**Latitude (S):**			**Longitude (E):**		
Alternative S1 (preferred or only route alternative)						
• Starting point of the activity	°	'	"	°	'	"
• Middle/Additional point of the activity	°	'	"	°	'	"
• End point of the activity	°	'	"	°	'	"
Alternative S2 (if any)						
• Starting point of the activity	°	'	"	°	'	"
• Middle/Additional point of the activity	°	'	"	°	'	"
• End point of the activity	°	'	"	°	'	"
Alternative S3 (if any)						
• Starting point of the activity	°	'	"	°	'	"
• Middle/Additional point of the activity	°	'	"	°	'	"
• End point of the activity	°	'	"	°	'	"

For route alternatives that are longer than 500m, please provide an addendum with co-ordinates taken every 250 meters along the route for each alternative alignment.

4. PHYSICAL SIZE OF THE ACTIVITY

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

[2] "Alternative S.." refer to site alternatives.

Alternative:	**Size of the activity:**
Alternative A1[3] (preferred activity alternative)	1000m^2
Alternative A2 (if any)	N/A
Alternative A3 (if any)	N/A

or,
<u>for linear activities:</u>

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

Indicate the size of the alternative sites or servitudes (within which the above footprints will occur):

Alternative:	**Size of the site/servitude:**
Alternative A1 (preferred activity alternative)	m^2
Alternative A2 (if any)	m^2
Alternative A3 (if any)	m^2

5. SITE ACCESS

Does ready access to the site exist?	YES	NO
If NO, what is the distance over which a new access road will be built		**N/A**

Describe the type of access road planned:

Existing gravel access routes will be used. No new access routes will be constructed.

Include the position of the access road on the site plan and required map, as well as an indication of the road in relation to the site.

6. SITE OR ROUTE PLAN

A detailed site or route plan(s) must be prepared for each alternative site or alternative activity. It must be attached as Appendix A to this document.

The site or route plans must indicate the following:

6.1 the scale of the plan which must be at least a scale of 1:500;
6.2 the property boundaries and numbers of all the properties within 50 metres of the site;
6.3 the current land use as well as the land use zoning of each of the properties adjoining the site or sites;
6.4 the exact position of each element of the application as well as any other structures on the site;
6.5 the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, street lights, sewage pipelines, storm water infrastructure and telecommunication infrastructure;
6.6 all trees and shrubs taller than 1.8 metres;
6.7 walls and fencing including details of the height and construction material;
6.8 servitudes indicating the purpose of the servitude;
6.9 sensitive environmental elements within 100 metres of the site or sites including (but not limited thereto):

- rivers;
- the 1:100 year flood line (where available or where it is required by Department of Water Affairs);
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or invested with alien species);

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

6.10 for gentle slopes the 1 metre contour intervals must be indicated on the plan and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the plan; and

6.11 the positions from where photographs of the site were taken.

7. SITE PHOTOGRAPHS

Colour photographs from the centre of the site must be taken in at least the eight major compass directions with a description of each photograph. Photographs must be attached under Appendix C to this form**.** It must be supplemented with additional photographs of relevant features on the site, if applicable.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 as Appendix B for activities that include structures. The illustrations must be to scale and must represent a realistic image of the planned activity. The illustration must give a representative view of the activity.

11. ACTIVITY MOTIVATION

9(a) Socio-economic value of the activity

What is the expected capital value of the activity on completion?	**R 51 879 971.50**	
What is the expected yearly income that will be generated by or as a result of the activity?	R 10 000 000	
Will the activity contribute to service infrastructure?	YES	NO
Is the activity a public amenity?	YES	NO
How many new employment opportunities will be created in the development phase of the activity?	25	
What is the expected value of the employment opportunities during the development phase?	R 500 000	
What percentage of this will accrue to previously disadvantaged individuals?	10%	
How many permanent new employment opportunities will be created during the operational phase of the activity?	4	
What is the expected current value of the employment opportunities during the first 10 years?	R 10 million	
What percentage of this will accrue to previously disadvantaged individuals?	70%	

9(b) Need and desirability of the activity

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

NEED:			
i.	Was the relevant municipality involved in the application?	YES	NO
ii.	Does the proposed land use fall within the municipal Integrated Development Plan?	YES	NO
iii.	If the answer to questions 1 and / or 2 was NO, please provide further motivation / explanation:		
	N/A		

DESIRABILITY:

i.	Does the proposed land use / development fit the surrounding area?	YES	NO
ii.	Does the proposed land use / development conform to the relevant structure plans, Spatial development Framework, Land Use Management Scheme, and planning visions for the area?	YES	NO
iii.	Will the benefits of the proposed land use / development outweigh the negative impacts of it?	YES	NO
iv.	If the answer to any of the questions 1-3 was NO, please provide further motivation / explanation:		
	N/A		
v.	Will the proposed land use / development impact on the sense of place?	YES	NO
vi.	Will the proposed land use / development set a precedent?	YES	NO
vii.	Will any person's rights be affected by the proposed land use / development?	YES	NO
viii.	Will the proposed land use / development compromise the "urban edge"?	YES	NO
ix.	If the answer to any of the question 5-8 was YES, please provide further motivation / explanation.		
	The proposed project might set a president such that other Municipalities to provide electricity to its residence especially those in the rural areas and farming communities.		

BENEFITS:			
i.	Will the land use / development have any benefits for society in general?	YES	NO
ii.	**Explain**: The portion of land as it is it is undeveloped, Without the proposed development, the location will remain in its current under unutilized state. The provision of electricity to the Smashblock community will improve the standard of living.		
iii.	Will the land use / development have any benefits for the local communities where it will be located?	YES	NO
iv.	Explain: The provision of electricity to the Smashblock community and some mines will meet the community needs for electricity and will pave way for small businesses.		

10. APPLICABLE LEGISLATION, POLICIES AND/OR GUIDELINES

List all legislation, policies and/or guidelines of any sphere of government that are applicable to the application as contemplated in the EIA regulations, if applicable:

Title of legislation, policy or guideline:	**Administering authority:**	**Date:**
National Environmental Management Act, 1998 (Act No 107 of 1998)	National Department of Environmental Affairs	9 January 1999.
The constitution of the republic of South Africa Act No. 44 of 1995	South African Government	4 February 1997
The National Water Act, 1998 (Act No 36 of	The Department of Water and Sanitation	20 August 1998

Title of legislation, policy or guideline:	Administering authority:	Date:
1998).		
National Heritage Resources Act, (NHRA), (Act 25 of 1999)	South African Heritage Agency (SAHRA) and Limpopo HRA	28 April 1999.
National Environmental Management: Biodiversity Act (Act no 10 of 2004).	National Department of Environmental Affairs	07 June 2004
National Environmental Management: Waste Act (Act No. 59 of 2008) 2008	Department of Environmental Affairs	10 March 2009
National Forests Act (No 84 of 1998)	Department of Agriculture, Forestry and Fisheries	6 August 1976
Fencing Act (No 31 of 1963):	South African Government	22 Sep 2014
South African National Standard Civil Engineering Standards and Publications	South African Government	23 August 1990.
National Environmental Management: Air Quality Act 39 of 2004	Department of Environmental Affairs	24 February 2005
National Veld and Forest Fire Act (Act No. 101 of 1998)	Department of Environmental Affairs	12 March 1998
Sans 10400 Applications of the National Building Regulations	South African Government	23 August 1990.
Occupational Health and Safety Act 1993 (Act 85 Of 1993)	South African Government	01 Jan 1994
Waterberg District Municipality Integrated Development Plan (2020/2021)	Waterberg District Municipality	31 May 2019

11. WASTE, EFFLUENT, EMISSION AND NOISE MANAGEMENT

11(a) Solid waste management

Will the activity produce solid construction waste during the construction/initiation phase?	**YES**	NO
If yes, what estimated quantity will be produced per month?	$15m^3$	

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

All construction solid waste will be collected in weather and scavenger-proof bins and will be stored temporarily on site, until it is removed to a permitted landfill site closest to the construction site as stipulated in the EMPr.

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

Old Colebatch Landfill site

Will the activity produce solid waste during its operational phase?	YES	NO
If yes, what estimated quantity will be produced per month?		N/A

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

N/A

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

N/A

If the solid waste (construction or operational phases) will not be disposed of in a registered landfill site or be taken up in a municipal waste stream, then the applicant should consult with the department to determine whether it is necessary to change to an application for scoping and EIA.

Can any part of the solid waste be classified as hazardous in terms of the relevant legislation?	YES	NO

If yes, inform the department and request a change to an application for scoping and EIA.

Is the activity that is being applied for a solid waste handling or treatment facility?	YES	NO

If yes, then the applicant should consult with the Department to determine whether it is necessary to change to an application for scoping and EIA.

11(b) Liquid effluent

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

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

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

If yes, provide the particulars of the facility:

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

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

N/A

11(c) Emissions into the atmosphere

Will the activity release emissions into the atmosphere?	YES	NO
If yes, is it controlled by any legislation of any sphere of government?	YES	NO

If yes, the applicant should consult with the competent authority to determine whether it is necessary to change to an application for scoping and EIA.
If no, describe the emissions in terms of type and concentration:

Dust may be generated during the construction phase of the project, due to excavation activities, vehicle movement etc. The dust can however be controlled by regular dampening of the work area, temporary pauses in work during high wind conditions, vehicle speed restrictions and by covering the building materials on site as well as during transportation. Construction vehicle emissions may exist. Exhaust emissions from construction vehicles can be minimized by ensuring that all vehicles are properly maintained and regularly serviced. The Dust Control Regulations, 2013 must be adhered to as stipulated in the EMPr.

11(d) Generation of noise

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

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

If no, describe the noise in terms of type and level:

Noise generated will be from construction activities. The following mitigation measures will ensure that noise created during construction is managed adequately:

- Ensure that vehicles and equipment utilized on site are in good working order and are serviced properly.
- Limit construction activities to daylight hours i.e., 7am to 5pm;
- Apply applicable municipal by-laws with regards to noise control; and
- The construction staff will not be housed on site and will also be informed as to how they could avoid any unnecessary noise pollution during working hours.

12. WATER USE

Please indicate the source(s) of water that will be used for the activity by ticking the appropriate box(es)

municipal	water board	groundwater	river, stream, dam or lake	other	the activity will not use water

If water is to be extracted from groundwater, river, stream, dam, lake or any other natural feature, please indicate the volume that will be extracted per month:

		N/A
Does the activity require a water use permit from the Department of Water Affairs?	YES	NO

If yes, please submit the necessary application to the Department of Water Affairs and attach proof thereof to this application if it has been submitted.

13. ENERGY EFFICIENCY

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

The design will emulate the concept of natural and green buildings which will be incorporated through the use of local materials and using low-impact building materials .

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

N/A

SECTION B: SITE/AREA/PROPERTY DESCRIPTION

Important notes:

1. For linear activities (pipelines, etc) as well as activities that cover very large sites, it may be necessary to complete this section for each part of the site that has a significantly different environment. In such cases please complete copies of Section C and indicate the area, which is covered by each copy No. on the Site Plan.

Section C Copy No. (e.g. A):	

2. Paragraphs 1 - 6 below must be completed for each alternative.

3. Has a specialist been consulted to assist with the completion of this section?

YES	**NO**

If YES, please complete the form entitled “Details of specialist and declaration of interest” for each specialist thus appointed:

All specialist reports must be contained in Appendix D.

Property description/physical address:	Portion 27 of Zwartkop Farm No.369 KQ

(Farm name, portion etc.) Where a large number of properties are involved (e.g. linear activities), please attach a full list to this application.

N/A

In instances where there is more than one town or district involved, please attach a list of towns or districts to this application.

Current land-use zoning:	Agriculture

In instances where there is more than one current land-use zoning, please attach a list of current land use zonings that also indicate which portions each use pertains to , to this application.

Is a change of land-use or a consent use application required?	YES	NO
Must a building plan be submitted to the local authority?	YES	NO

Locality map: An A3 locality map must be attached to the back of this document, as Appendix A. The scale of the locality map must be relevant to the size of the development (at least 1:50 000. For linear activities of more than 25 kilometres, a smaller scale e.g. 1:250 000 can be used. The scale must be indicated on the map.) The map must indicate the following:

- an indication of the project site position as well as the positions of the alternative sites, if any;
- road access from all major roads in the area;
- road names or numbers of all major roads as well as the roads that provide access to the site(s);
- all roads within a 1km radius of the site or alternative sites; and
- a north arrow;
- a legend; and
- locality GPS co-ordinates (Indicate the position of the activity using the latitude and longitude of the centre point of the site for each alternative site. The co-ordinates should be in degrees, minutes and seconds. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection)

1. GRADIENT OF THE SITE

Indicate the general gradient of the site.

Alternative S1:

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

Alternative S2 (if any):

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

Alternative S3 (if any):

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

2. LOCATION IN LANDSCAPE

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

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

3. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

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

	Alternative S1:		**Alternative S2 (if any):**		**Alternative S3 (if any):**	
Shallow water table (less than 1.5m deep)	YES	NO	YES	NO	YES	NO
Dolomite, sinkhole or doline areas	YES	NO	YES	NO	YES	NO
Seasonally wet soils (often close to water bodies)	YES	NO	YES	NO	YES	NO
Unstable rocky slopes or steep slopes with loose soil	YES	NO	YES	NO	YES	NO

Dispersive soils (soils that dissolve in water)	YES	NO		YES	NO	YES	NO
Soils with high clay content (clay fraction more than 40%)	YES	NO		YES	NO	YES	NO
Any other unstable soil or geological feature	YES	NO		YES	NO	YES	NO
An area sensitive to erosion	YES	NO		YES	NO	YES	NO

If you are unsure about any of the above or if you are concerned that any of the above aspects may be an issue of concern in the application, an appropriate specialist should be appointed to assist in the completion of this section. (Information in respect of the above will often be available as part of the project information or at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by the Council for Geo Science may also be consulted).

4. GROUNDCOVER

Indicate the types of groundcover present on the site:
The location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Natural veld - good condition[E]	Natural veld with scattered aliens[E]	Natural veld with heavy alien infestation[E]	Veld dominated by alien species[E]	Gardens
Sport field	Cultivated land	Paved surface	Building or other structure	Bare soil

If any of the boxes marked with an "[E] "is ticked, please consult an appropriate specialist to assist in the completion of this section if the environmental assessment practitioner doesn't have the necessary expertise.

5. LAND USE CHARACTER OF SURROUNDING AREA

Indicate land uses and/or prominent features that does currently occur within a 500m radius of the site and give description of how this influences the application or may be impacted upon by the application:

5.1 Natural area		**5.22 School**	
5.2 Low density residential		**5.23 Tertiary education facility**	
5.3 Medium density residential		**5.24 Church**	
5.4 High density residential		**5.25 Old age home**	
5.5 Medium industrial [AN]		**5.26 Museum**	
5.6 Office/consulting room		**5.27 Historical building**	
5.7 Military or police base/station/compound		**5.28 Protected Area**	
5.8 Spoil heap or slimes dam [A]		**5.29 Sewage treatment plant [A]**	
5.9 Light industrial		**5.30 Train station or shunting yard [N]**	
5.10 Heavy industrial [AN]		**5.31 Railway line [N]**	
5.11 Power station		**5.32 Major road (4 lanes or more)**	
5.12 Sport facilities		**5.33 Airport [N]**	
5.13 Golf course		**5.34 Harbour**	
5.14 Polo fields		**5.35 Quarry, sand or borrow pit**	
5.15 Filling station [H]		**5.36 Hospital/medical centre**	

5.16 Landfill or waste treatment site		**5.37 River, stream or wetland**	
5.17 Plantation		**5.38 Nature conservation area**	
5.18 Agriculture		**5.39 Mountain, koppie or ridge**	
5.19 Archaeological site		**5.40 Graveyard**	
5.20 Quarry, sand or borrow pit		**5.41 River, stream or wetland**	
5.21 Dam or Reservoir		**5.42 Other land uses (describe)**	

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

N/A

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

If YES, specify and explain:	N/A
If NO, specify:	

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

If YES, specify and explain:	N/A
If NO, specify:	

6. CULTURAL/HISTORICAL FEATURES

Are there any signs of culturally or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including	**YES**	**NO**
Archaeological or palaeontological sites, on or close (within 20m) to the site?	**Uncertain**	
If YES, explain:	**N/A**	
If uncertain, conduct a specialist investigation by a recognised specialist in the field to establish whether there is such a feature(s) present on or close to the site.		
Briefly explain the findings of the specialist:	**N/A**	
Will any building or structure older than 60 years be affected in any way?	**YES**	**NO**
Is it necessary to apply for a permit in terms of the National Heritage Resources Act, 1999 (Act 25 of 1999)?	**YES**	**NO**

If yes, please submit or, make sure that the applicant or a specialist submits the necessary application to SAHRA or the relevant provincial heritage agency and attach proof thereof to this application if such application has been made.

SECTION C: PUBLIC PARTICIPATION

1. ADVERTISEMENT

The person conducting a public participation process must consider any guidelines applicable to public participation as contemplated in section 24J of the Act and must give notice to all potential interested and affected parties of the application which is subjected to public participation by—

(a) fixing a notice board (of a size at least 60cm by 42cm; and must display the required information in lettering and in a format as may be determined by the department) at a place conspicuous to the public at the boundary or on the fence of—
  (i) the site where the activity to which the application relates is or is to be undertaken; and
  (ii) any alternative site mentioned in the application;

(b) giving written notice to—

(i) the owner or person in control of that land if the applicant is not the owner or person in control of the land;
(ii) the occupiers of the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iii) owners and occupiers of land adjacent to the site where the activity is or is to be undertaken or to any alternative site where the activity is to be undertaken;
(iv) the municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represent the community in the area;
(v) the municipality which has jurisdiction in the area;
(vi) any organ of state having jurisdiction in respect of any aspect of the activity; and
(vii) any other party as required by the department;

(c) placing an advertisement in—
(i) one local newspaper; or
(ii) any official *Gazette* that is published specifically for the purpose of providing public notice of applications or other submissions made in terms of these Regulations;

(d) placing an advertisement in at least one provincial newspaper or national newspaper, if the activity has or may have an impact that extends beyond the boundaries of the local municipality in which it is or will be undertaken: Provided that this paragraph need not be complied with if an advertisement has been placed in an official *Gazette* referred to in subregulation 54(c)(ii); and

(e) using reasonable alternative methods, as agreed to by the department, in those instances where a person is desiring of but unable to participate in the process due to—
(i) illiteracy;
(ii) disability; or
(iii) any other disadvantage.

2. CONTENT OF ADVERTISEMENTS AND NOTICES

A notice board, advertisement or notices must:

(a) indicate the details of the application which is subjected to public participation; and
(b) state—
(i) that the application has been submitted to the department in terms of these Regulations, as the case may be;
(ii) whether basic assessment or scoping procedures are being applied to the application, in the case of an application for environmental authorisation;
(iii) the nature and location of the activity to which the application relates;
(iv) where further information on the application or activity can be obtained; and
(v) the manner in which and the person to whom representations in respect of the application may be made.

3. PLACEMENT OF ADVERTISEMENTS AND NOTICES

Where the proposed activity may have impacts that extend beyond the municipal area where it is located, a notice must be placed in at least one provincial newspaper or national newspaper, indicating that an application will be submitted to the department in terms of these regulations, the nature and location of the activity, where further information on the proposed activity can be obtained and the manner in which representations in respect of the application can be made, unless a notice has been placed in any *Gazette* that is published specifically for the purpose of providing notice to the public of applications made in terms of these Regulations.

Advertisements and notices must make provision for all alternatives.

4. DETERMINATION OF APPROPRIATE MEASURES

The practitioner must ensure that the public participation is adequate and must determine whether a public meeting or any other additional measure is appropriate or not based on the particular nature of each case. Special attention should be given to the involvement of local

community structures such as Ward Committees, ratepayers associations and traditional authorities where appropriate. Please note that public concerns that emerge at a later stage that should have been addressed may cause the department to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was inadequate.

5. COMMENTS AND RESPONSE REPORT

The practitioner must record all comments and respond to each comment of the public before the application is submitted. The comments and responses must be captured in a comments and response report as prescribed in these Regulations and be attached to this application. The comments and response report must be attached under Appendix E.

6. AUTHORITY PARTICIPATION

Please note that a complete list of all organs of state and or any other applicable authority with their contact details must be appended to the basic assessment report or scoping report, whichever is applicable.

Authorities are key interested and affected parties in each application and no decision on any application will be made before the relevant local authority is provided with the opportunity to give input.

Name of Authority informed:	Comments received (Yes or No)
Eskom	No
Thabazimbi Local Municipality	No
South African Heritage Resources Agency	No
Department of Mineral Resources	No
Department of Water and Sanitation.	No
Department of Environment, Forestry and Fisheries	No

7. CONSULTATION WITH OTHER STAKEHOLDERS

Note that, for linear activities, or where deviation from the public participation requirements may be appropriate, the person conducting the public participation process may deviate from the requirements of that subregulation to the extent and in the manner as may be agreed to by the department.

Proof of any such agreement must be provided, where applicable.

Has any comment been received from stakeholders? YES | NO

If "YES", briefly describe the feedback below (also attach copies of any correspondence to and from the stakeholders to this application):

SECTION D: IMPACT ASSESSMENT

The assessment of impacts must adhere to the minimum requirements in the EIA Regulations, 2014, and should take applicable official guidelines into account. The issues raised by interested and affected parties should also be addressed in the assessment of impacts.

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

List the main issues raised by interested and affected parties.

None

Response from the practitioner to the issues raised by the interested and affected parties (A full response must be given in the Comments and Response Report that must be attached to this report as Annexure E):

Immediate Neighbours, Adjacent Landowners and Landowners

2. IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur as a result of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

1) METHODOLOGY OF IMPACT ASSESSMENT

According to the DEA IEM Series guideline on "Impact Significance" (2002), there are a number of quantitative and qualitative methods that can be used to identify the significance of impacts resulting from a development. The process of determining impact significance should ideally involve a process of determining the acceptability of a predicted impact to society. Making this process explicit and open to public comment and input would be an improvement of the BA process. Lesekha Consulting approach to determining significance is generally as follows:

- Use of expert opinion by the specialists ("professional judgment"), based on their experience, a site visit and analysis, and use of existing guidelines and strategic planning documents and conservation mapping (e.g. SANBI biodiversity databases);
- Our approach is more a qualitative approach - we do not have a formal matrix calculation of significance as is sometimes done.

2) SPECIALIST CRITERIA FOR IMPACT ASSESSMENT

The following methodology has been provided by the Lesekha Consulting for incorporation into assessments:

Assessment of Potential Impacts

The assessment of impact significance is based on the following conventions:

Nature of Impact - this review the type of effect that a proposed activity will have on the environment and should include “what will be affected and how?

Spatial Extent - this should indicate whether the impact will be:

- Site specific;
- Local (<2 km from site);
- Regional (within 30 km of site); or
- National.

Duration - The timeframe during which (lifetime of) the impact will be experienced:

- Temporary (less than 1 year);
- Short term (1 to 6 years);
- Medium term (6 to 15 years);
- Long term (the impact will cease after the operational life of the activity); or
- Permanent (mitigation will not occur in such a way or in such a time span that the impact can be considered transient).

Intensity - it should be established whether the impact is destructive or innocuous and should be described as either:

- High (severe alteration of natural systems, patterns or processes such that they temporarily or permanently cease);
- Medium (notable alteration of natural systems, patterns or processes; where the environment continues to function but in a modified manner); or
- Low (negligible or no alteration of natural systems, patterns or processes); can be easily avoided by implementing appropriate mitigation measures, and will not have an influence on decision-making.

Probability - this considers the likelihood of the impact occurring and should be described as:

- Improbable (little or no chance of occurring);
- Probable (<50% chance of occurring);
- Highly probable (50 – 90% chance of occurring); or
- Definite (>90% chance of occurring).

Reversibility - this considers the degree to which the adverse environmental impacts are reversible or irreversible. For example, an impact will be described as low should the impact have little chance of being rectified to correct environmental impacts. On the other hand, an impact such as the nuisance factor caused by noise impacts from wind turbines can be considered to be highly reversible at the end

of the project lifespan. The assessment of the reversibility of potential impacts is based on the following terms:

- High - impacts on the environment at the end of the operational life cycle are highly reversible;
- Moderate - impacts on the environment at the end of the operational life cycle are reasonably reversible;
- Low - impacts on the environment at the end of the operational life cycle are slightly reversible; or
- Non-reversible - impacts on the environment at the end of the operational life cycle are not reversible and are consequently permanent.

Irreplaceability - this reviews the extent to which an environmental resource is replaceable or irreplaceable. For example, if the proposed project will be undertaken on land that is already transformed and degraded, this will yield a low irreplaceability score; however, should a proposed development destroy wetland systems for example, these may be considered irreplaceable and thus be described as high. The assessment of the degree to which the impact causes irreplaceable loss of resources is based on the following terms:

- High irreplaceability of resources (this is the least favourable assessment for the environment);
- Moderate irreplaceability of resources;
- Low irreplaceability of resources; or
- Resources are replaceable (this is the most favourable assessment for the environment).

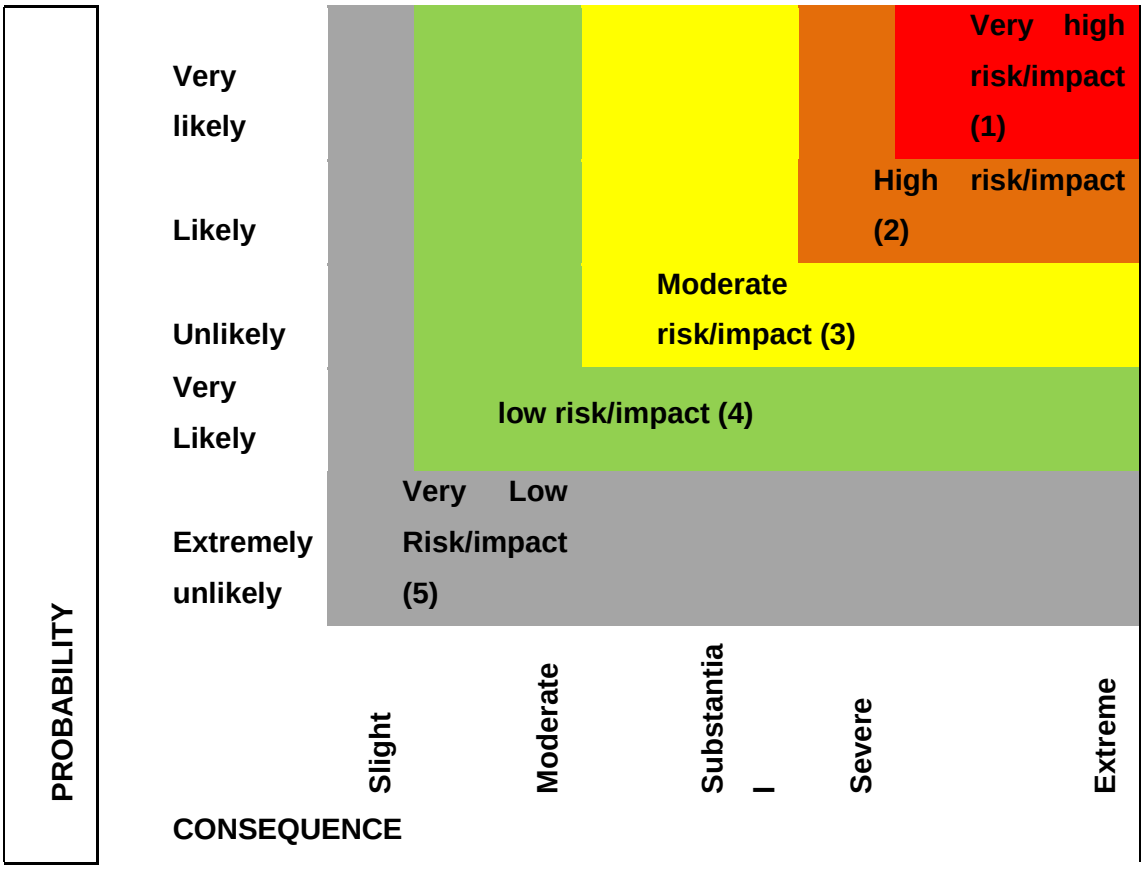

Figure 9: Guide to assessing risk/impact significance as a result of consequence and probability.

The status of the impacts and degree of confidence with respect to the assessment of the significance is stated as follows:

Status of the impact: A description as to whether the impact will be:

- Positive (environment overall benefits from impact);
- Negative (environment overall adversely affected); or
- Neutral (environment overall not affected).

Degree of confidence in predictions: The degree of confidence in the predictions, based on the availability of information and specialist knowledge. This should be assessed as:

- High;
- Medium; or
- Low.

Based on the above considerations, the specialist provides an overall evaluation of the significance of the potential impact, which should be described as follows:

- **Low to very low:** the impact may result in minor alterations of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated;
- **Medium:** the impact will result in moderate alteration of the environment and can be reduced or avoided by implementing the appropriate mitigation measures, and will only have an influence on the decision-making if not mitigated; or
- **High:** Where it could have a “no-go” implication for the project unless mitigation or re-design is practically achievable. Furthermore, the following must be considered:
- Impacts should be described both before and after the proposed mitigation and management measures have been implemented.
- All impacts should be evaluated for the construction, operation and decommissioning phases of the project, where relevant.
- The impact evaluation should take into consideration the cumulative effects associated with this and other facilities which are either developed or in the process of being developed in the region, if relevant.

Management Actions:

- Where negative impacts are identified, mitigatory measures will be identified to avoid or reduce negative impacts. Where no mitigatory measures are possible this will be stated.
- Where positive impacts are identified, augmentation measures will be identified to potentially enhance these.

- Quantifiable standards for measuring and monitoring mitigatory measures and enhancements will be set. This will include a programme for monitoring and reviewing the recommendations to ensure is ongoing effectiveness.

Monitoring:

Specialists should recommend monitoring requirements to assess the effectiveness of mitigation actions, indicating what actions are required, by whom, and the timing and frequency thereof.

Cumulative Impact:

Consideration is given to the extent of any accumulative impact that may occur due to the proposed development. Such impacts are evaluated with an assessment of similar developments already in the environment. Such impacts will be either positive or negative, and will be graded as being of negligible, low, medium or high impact.

Mitigation:

The objective of mitigation is to firstly avoid and minimise impacts where possible and where these cannot be completely avoided, to compensate for the negative impacts of the development on the receiving environment and to maximise re-vegetation and rehabilitation of disturbed areas. For each impact identified, appropriate mitigation measures to reduce or otherwise avoid the potentially negative impacts are suggested. All impacts are assessed without mitigation and with the mitigation measures as suggested. Briefly describe and compare the potential impacts (as appropriate), significance rating of impacts, proposed mitigation and significance rating of impacts after mitigation that are likely to occur as a result of the construction phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

IMPACTS THAT MAY RESULT FROM THE PLANNING AND DESIGN, CONSTRUCTION, OPERATIONAL, DECOMMISSIONING AND CLOSURE PHASES AS WELL AS PROPOSED MANAGEMENT OF IDENTIFIED IMPACTS AND PROPOSED MITIGATION MEASURES.

List the potential direct, indirect and cumulative property/activity/design/technology/operational alternative related impacts (as appropriate) that are likely to occur because of the planning and design phase, construction phase, operational phase, decommissioning and closure phase, including impacts relating to the choice of site/activity/technology alternatives as well as the mitigation measures that may eliminate or reduce the potential impacts listed.

a. LIST THE POTENTIAL IMPACTS ASSOCIATED WITH SITE ALTERNATIVES THAT ARE LIKELY TO OCCUR DURING THE PLANNING AND DESIGN PHASE

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
INFRASTRUCTURE												
Design of substation must comply with Civil engineering regulations.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The substation structures are designed and lined with impermeable substances (concrete) in accordance with advice from international best practice norms.	Very Low	5
ENVIRONMENTAL POLICY												
Legal and policy compliance During the planning and design phase, failure to adhere to existing policies and legal obligations and obtain the necessary authorisations could	local	Short – term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	-All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy. - These should include (but are	Moderate	3

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
lead to the project conflicting with local, provincial and national policies, legislation, etc. This could result in lack of institutional support for the project, overall project failure and undue disturbance to the natural environment.										not restricted to): NEMA and Local Municipal bylaws. -All relevant permits and authorisations including the General Authorisations, Building Plan Approvals and plant removal permits must be in place prior to commencement of construction.		
STORMWATER MANAGEMENT												
During the planning and design phase, inadequate planning for stormwater during the construction and operational phases within the site could result in erosion and contamination of the soil and surrounding watercourses if there are not appropriate stormwater management structures in place.	Local	Short-term	Likely	moderate	Very low	High	Low	Yes	Yes	-A method statement must be developed by the project manager or contractor prior to construction, including considerations for stormwater, erosion, waste and alien vegetation management, as well as site rehabilitation and maintenance considerations. This method statement must be approved by the appointed ECO. -This method statement should include stormwater management considerations to control runoff prevent erosion of	Very low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										the site and its surroundings and mitigate the unnecessary loss of soil and sedimentation of watercourses during all phases of the project. - Regular monitoring of implementation of this method statement for the rehabilitation of disturbed areas must be conducted. -Appropriate stormwater structures, in alignment with the method statement, must be designed to minimise erosion of the surrounding environment to the extent required		
WASTE MANAGEMENT												
During the planning and design phase, failure to plan for the storage, handling and disposal of general and hazardous waste during the construction and operation phase may lead to littering and pollution of the surrounding environment, unsanitary conditions and health	Local	Short-term	Likely	Slightly	Very low	High	Low	Yes	Yes	-A method statement must be developed by the project manager or contractor prior to construction, including considerations for stormwater, erosion, waste and alien vegetation management, as well as site rehabilitation and maintenance considerations.	Very low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE PLANINING PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
risks.										This method statement must be approved by the appointed ECO. -This method statement should include waste management considerations for handling onsite general and hazardous waste during the construction and operation phases must be developed and implemented during construction. -An appropriate area must be identified where waste can be stored before disposal. - All hazardous substances such as paints, diesel and cement must be stored in a secure bunded area with an impermeable surface beneath them.		

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
ACCESS ROADS												
Biophysical impacts due to development and use of access roads during the development of the substation.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The access road is already there if another access road must be constructed the following must be Followed: No access roads must be constructed on a sensitive area. Routing roads must be the same as the existing access track to the development site unless tracks are impassable due to physical characteristics or unless they pass through or close to sensitive areas. Unnecessary compaction of soil by heavy vehicles must be avoided; construction vehicles must be restricted to demarcated access and turning areas. Agreed turning areas are to be formalized and used by contractors. No turning manoeuvres other than at the designated places must be permitted. Machine/vehicle	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										operators must receive clear Access to sitinstructions to remain within demarcated access routes and operations/construction areas		
Access to site	local	Short – term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	The contractor must ensure that the access roads leading to the construction are in good conditions.	Very Low	5
Housekeeping Establishment and Maintenance of storage areas	local	Short – term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	Storage areas of all the building materials and equipment's must be designed, demarcated and fenced if necessary. Location of storage areas must consider prevailing winds, distance to water bodies, boreholes and on-site topography. Storage areas must be secure and be safe from access by children and animals. Fire prevention facilities must be present at all storage facilities. Contractors/Developer must	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										ensure that storage facilities are cleaned and maintained regularly and that leaking containers are disposed of without spillage onto the soil.		
Risk associated with materials on site	local	Short – term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	All Material must be stable and well secured to avoid collapse and possible injury to site workers/residents. No materials are to be stored in unstable or high-risk areas such as in floodplains or on steep slopes.	Very Low	5
ENVIRONMENTAL EDUCATION & AWARENESS												
Various biophysical and sociological impacts due to poor staff conduct of contractor Staff Conduct on Site Social Environment & Affected Parties (IAPs).	local	Short – term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	The contractor/developer must always ensure proper supervision of employees. Staffs needs to be made aware of the following general rules which must be always followed. No alcohol or drugs are to be present on site. No firearms are allowed on site or in vehicles transporting staff to/from site, unless used by security	Moderate	3

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										personnel. Prevent excessive noise. No harvesting of firewood from the site or from the areas adjacent to it.		
CULTURAL HERITAGE												
All the archaeological, historical or paleontological objects found on the development activity must not be disturbed	Local	Short-term	Likely	moderate	Very low	High	Low	Yes	Yes	Before construction starts, all staff must be informed regarding possible archaeological, historical or paleontological objects (e.g. tools, human's remains, fossils, etc) of value and what they look like. The engineer or contractor/developer must be notified should such an item be uncovered. All work must cease immediately and SAHRA must be notified if any archaeological, historical or paleontological remains are discovered during development.	Very low	5
SOIL												
Erosion of stockpiled material (sand and steel etc).	Local	Short-term	Likely	Slightly	Very low	High	Low	Yes	Yes	Material must be stockpiled in such a way that it cannot fall or cause injury or damage to	Very low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										properties or the natural environment. Stockpiles must not exceed 2m in height and must be covered if exposed to heavy wind or rain. Alternatively, low walls or berms must be constructed around the stockpiles. On completion of the construction all exposed soil must be re-vegetated, preferably with indigenous vegetation. Implementation of erosion control measures is essential.		
STORMWATER												
Poor storm water Management during construction can lead to erosion and loss of soil.	Local	Short term	Likely	Moderate	Very low	Moderate	Moderate	Yes	Yes	Stormwater control must be implemented during construction; however, this is a temporary impact of the proposal. A drainage system must be established for the construction camp. Contaminated stormwater must not be allowed to enter the river. The drainage system must be regularly checked to ensure an	Moderate	3

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										unobstructed water flow. To reduce erosion and loss of soil/slit during rain, slit traps must be used on slopes and areas that are likely to erode during development. If vegetation is to be removed, it must be done in phases to ensure that a minimum area of soil is exposed to potential erosion at any one time. Storm-water outfalls must be designed to reduce flow velocity and avoid stream bank and soil erosion. Disturbed surfaces must be re-vegetated immediately after completion of construction activities in each area.		
IMPACTS ON WATER												
Impact on the regional water balance because of increased water usage.	Local	Short term	Likely	Slight	Very low	High	Low	Yes	Yes	Water is required during the construction phase for various purposes, such as earthworks, as well as to fulfil the requirements of construction	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										personnel on-site. Where possible, water conservation must be practiced. Water conservation techniques include making construction personnel aware of the importance of limiting water wastage, as well as reducing water use during the cleaning of the site (such as sweeping the site before it is being washed). Contractor should also ensure that the water infrastructure on site is monitored or leakages on a regular basis to prevent wastage.		
IMPACT ON FLORA												
Risk of alien invasive Encroachment into disturbed areas.	Local	Short term	Very likely	Severe	High	Low	Moderate	Yes	Yes	At present, there is no alien encroachment but must be controlled during construction. The establishment or spread of alien plant species on site must be monitored and the correct removal and disposal of alien plant species must be followed.	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										Rehabilitation of disturbed areas must commence as soon as construction activities are completed in those areas.		
IMPACT ON FAUNA												
Site clearing for construction activities leading to loss of species and habitat characteristics.	Local	Short term	Very likely	Severe	High	Moderate	Moderate	Yes	Yes	Appoint an Environmental Control Officer (ECO) prior to commencement of construction phase to ensure adherence to EMPr guidelines, guidance of activities, planning, reporting to authorities, etc; Limit site clearing to those areas required for construction at a time Delineation of the conservation area prior to commencement of construction activities. The sensitive drainage line/wetland areas to be fenced off from all construction activities. Disturbance of mammals, birds, reptiles, other animals, and their habitats must	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										be prevented. If subterranean mammals are found in a construction area, construction must stop and the ECO must arrange for their capture and translocation to a safe area.		
Damage and removal of Existing vegetation.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Workers must be educated / trained on minimizing damage to vegetation during construction. Only vegetation that must be removed for the construction of the substation facilities must be removed and the footprint		
NOISE												
Noise generated during construction can be nuisance.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	About unavoidable very noisy construction activities in the area, these should be screened off with acoustic screens where possible. However, if there no acoustic screening during exceptionally noisy construction period then warning to community members would be extremely important.	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										During construction activities, it must be ensured that everyone on site comply with the requirement of the Occupational Health and Safety Act (Act 85 of 1993) and Employees must be issued with appropriate Personal Protective Equipment.		
REMOVAL OF ENDANGEREDVEGETATION												
Removal of endangered Vegetation	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Regarding unavoidable very noisy construction activities in the area, these must be screened off with acoustic screens where possible. However, if there no acoustic screening during exceptionally noisy construction period then warning to community members would be extremely important.	Very Low	5
TRAFFIC												
The construction phase is likely to have traffic for delivering earth moving vehicles and materials	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Access road with designated by road sign and speed limits.	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
on site										Planning of utilizing access route. During the construction phase, suitable parking areas must be created and designated for construction trucks and vehicles. • A construction supervisor must be appointed to co-ordinate construction traffic during the construction phase (by drawing up a traffic plan prior to construction) Road barricading must be undertaken where required and road safety signs must be adequately installed at strategic points within the construction site.		
HEALTH AND SAFETY IMPACT												
Health and safety impact	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The safety of residents and construction workers is of great importance as people can be injured and in extreme	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										circumstances death may even result. For these reasons it is very important that mitigations measures are strictly adhered to and enforced. Injury and loss of life is considered highly significant and once it has occurred cannot be reversed. The overall significance of the potential death/injury to residents/construction workers is Insignificant provided that the mitigation measures, stipulated. All relevant Health and Safety legislation as required in South Africa must be strictly adhered to including the Occupational Health & Safety Act, 1993 (Act No.85 of 1993). Potentially hazardous areas (i.e. trenches) must be demarcated and clearly marked. During construction, health and safety impacts can affect not only those working on the site, but		

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										they can also affect those residing in proximity, as well as those passing through/by the site. A good, clear interpretation of the Health and Safety Rules and Guidelines can help to prevent potentially dangerous and fatal incidents from occurring. Before construction workers commence work, as well as during their work activities to prevent harm to themselves, either via machinery operation, construction materials or through improper ergonomics.		
Health Impacts. Temporary accommodation of workers during construction phase would lead to the influx of job seekers to the area. Temporary workers combined with influx of unsuccessful job seekers can have a number of social impacts.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Health issues because of possibility of single men engaging in relations with local women, this could lead the increased risk of STD's, HIV and AIDS as well as unwanted pregnancies resulting in fatherless children. A potential increase in criminal and other illegal activities cannot be	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										excluded. Contractors to procure products and services locally as far as possible. To mitigate the above-mentioned impacts local labours must be hired, and there would be HI awareness induction to educate laboures about safe sex practices. Influx of people not residing in the area looking for employment can be mitigated by requesting information from the project proponent on the construction process and the likely profile of a typical construction worker. Conduct a desk top study to determine the health profile of the area, including typical indicators such as HIV prevalence, etc. Interviews with municipal officials and other authority figures (such as the South African Police Service) to		

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										determine the current extent of social problems in the area and initiatives to combat them.		
WASTE GENERATION												
Structuring of sewage waste during construction requires proper treatment. If sewage connection is not properly fitted it can have adverse impact on both biophysical and socio-economic environment	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	The contractors must be responsible for the maintenance of the chemical toilets. All incidents must be reported to the responsible site officer as soon as possible	Very Low	5
Improper storage and disposal of solid waste.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Due to the nature of the activity, waste is anticipated to be minimal. All solid waste generated during the construction process must be placed in a designated waste collection area within the site camp and must not be allowed to blow around the site, be accessible by animals, or be placed in piles adjacent to the skips/bins. All solid waste must then be disposed of at the nearest licensed landfill and	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										safe disposal certificates must be always obtained and kept on site during construction. Separate skips/ bins for the different waste streams must be available on site. The waste containers must be appropriate to the waste type contained therein and where necessary must be lined and covered. This must be monitored by the ECO		
Littering around the site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Littering is not permitted on the site and general housekeeping must be enforced. General waste bins must be readily available for litter disposal and general housekeeping. The EMPr must be followed during construction	Low	4
Improper disposal of rubble i.e. burying or Neglecting building rubble resulting in direct Mechanical damage to Surrounding vegetation and untidiness of the site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Local	All excess material and rubble must be removed from the site so not to restrict the rehabilitation process. All excess material and rubble must go to an approved designated landfill and a safe disposal	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										certificate must be obtained. Site workers must be trained in avoiding such impacts during induction training and regular toolbox talks.		
Improper disposal of toilet waste from chemical toilets resulting in contamination of the surrounding environment	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Chemical toilets must be placed within the construction camp. The chemical toilets must be provided by a registered company and all effluent must be regularly disposed of at a licensed facility. Safe disposal certificates must be kept on record.	Very Low	5
Increase waste to Landfill site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Due to the nature of the activity, waste is anticipated to be minimal. Where possible, waste streams must be separated and recycled to limit the amount of waste being added to the landfill site.	Very Low	5
Lack of toilet facilities resulting in	Local	Short	Likely	Sligh	Medium	High	low	Yes	Yes	Toilet facilities must be provided	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
unsanitary Conditions.		term		t						for all staff members as standard construction practice. These toilets must be regularly cleaned by a reputable company and maintained in a clean state. This must be monitored in an EMPr.		
HAZARDOUS CHEMICALS												
Hazardous Substances & Materials (Those hazardous substances and materials which are potentially poisonous, flammable, carcinogenic or toxic. These could include: Diesel, petroleum, oil, bituminous products. Cement, Solvent based paints, Lubricants, Explosives, Drilling fluids. Pesticides, herbicides. Liquid petroleum gas.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Hazardous storage and refueling areas must be underlain with an impermeable liner to protect groundwater quality. If applicable; fuel tanks must meet relevant specifications and must be elevated so that leaks may be detected easily. Storage areas containing hazardous substances and materials must be clearly signed. If applicable; Staff dealing with these Materials and substances must be aware of their potential impacts and follow the appropriate safety measures.	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										Handling, storage and disposal of potential hazardous materials, residues or their containers must be in accordance with DWS requirements and specifications. Scheduled hazardous waste such as bitumen, tar, oils, etc., must be disposed of at DWS-approved facilities.		
Handling of Hazardous Materials	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	No vehicles transporting, placing, or compacting asphalt or any other bituminous product may be washed on site. Powders, e.g. lime, must not be mixed during excessively windy conditions. All concrete mixing must take place on a designated, impermeable surface. No vehicles transporting concrete to Construction site may be washed on site. Hazardous substances and	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										materials are to be transported in sealed containers or bags.		
Hazardous Areas due to Construction Activities	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Potentially hazardous areas such as trenches are to be demarcated clearly marked so that warning about these areas is visible during the day and night.	Very Low	5
AIR QUALITY												
Construction activities have been the source of dust generated during construction activities. Generation of fumes from vehicles emissions may pollute the air	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	To reduce dust entrainment water or an appropriate dust suppressant must be sprayed on topsoil of material storage site until such time as the material storage site to control dust. There must be strict speed limits of dust road to prevent entrainment into the atmosphere. All earth moving vehicles and equipment must be regularly	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										maintained to ensure their integrity and reliability. No repairs are to be performed on an impervious surface with clean and dirty water separation systems in place		
VISUAL IMPACTS												
Visual impact	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Storage facilities, elevated tanks and other temporary structure on site must be located to have as little as possible visual impact. Lighting in the site or at construction sites must be pointed downwards and away from oncoming traffic and nearby residents. Appropriate positioning of spoil dumps needs to be implemented Ensure that building type and design must be compactable to future planned adjacent developments.	Very Low	5
Dust generated from construction vehicles and other onsite activity.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Dust control measures (the use of a water cart / truck) must be used to wet exposed soil and thereby	Low	4

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										ensure that excessive dust levels are not experienced on site. The dust levels must be kept below the required SANBS standard to ensure minimal impact on the surrounding community and the environment. Areas that have been stripped of vegetation, existing exposed soil surface and sandy access route must be dampened regularly to avoid excessive dust, particularly during dry and windy conditions. The time that stripped areas are left open to exposure must be minimized wherever possible. Maintenance of existing vegetation helps control dust and prevents soil erosion. The ECO can order areas of vegetation to be fenced off during construction that remain		

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										out of bounds. Construction vehicles must adhere to speed limit to avoid creating excessive dust. A speed limit of 30km/hr must be adhered to on all dirt roads. Contractor must provide appropriate arrangement for cooking and for heating requirements open fires not allowed. Spoil dumps need to be implemented Ensure that building type and design will be compactable to future planned adjacent developments		
TRAFFIC												
The construction phase is likely to have traffic for delivering earth moving vehicles and materials on site.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Access road with designated by road sign and speed limits Planning of utilizing access route	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
STORMWATER												
Minimum impact of construction phase on roadway and driveway site. Erosion could result on losing material of being exposed at downstream.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Short-term impacts during construction are commitment to use the strategy to mitigate erosion.	Very Low	5
SECURITY												
Construction camp requires security reason to keep materials and other equipment's safe due to increased number of personnel on site	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Security guards must be on site all the time to secure property from theft. To use advance technology, light, and alarm system. Weapons must not be allowed on site. No unauthorized personnel must access the site	Low	4
SOCIO-ECONOMIC IMPACT												
Impact: Employment creation and skills development opportunities during the construction phase, which is expected to give rise to approximately several new jobs.	Local	Short term	Likely	Slight	Medium	High	low	Yes	Yes	Liaise with the client to maximise job creation opportunities during the construction phase. -Enhance the use of local labour and local skills as far as	Very Low	5

PROPOSAL: IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
This impact is rated as positive										reasonably possible. -Where the required skills do not occur locally, and where appropriate and applicable, ensure that relevant local individuals are trained. -Ensure that an equitable percentage allocation is provided for local labour employment as well as specify the use of small-to-medium enterprises and training specifications in the Contractors contract. Ensure that goods and services are sourced from the local and regional economy as far as reasonably possible.		

LIST THE POTENTIAL IMPACTS ASSOCIATED WITH SITE ALTERNATIVES THAT ARE LIKELY TO OCCUR DURING THE CONSTRUCTION PHASE

c. NO-GO ALTERNATIVES

IMPACTS OF THE NO GO OPTION

The 'No Go' alternative means that the proposed development of the Smashblock substation will not continue and the *status quo* will remain

NO GO ALTERNATIVE
Direct impacts:
Without the proposed development, the location will remain in its current under unutilized state. This no-action alternative presents environmental concerns, as the site in its current state is prime but underutilized. From a socio-economic perspective, the no-action alternative will not yield any benefit to the proponent and the surrounding communities. This alternative will mean that the project does not proceed.
Advantages
• Air pollution from dust because of the construction process will not occur • There will not be soil compaction because of heavy machinery use • There will be no soil or water contamination • The existing site will remain un-cleared which will result in no clearance of indigenous vegetation
Disadvantage
• The vision's for the Thabazimbi Local Municipality to provide electricity to the residents would have not be met. • The long-term objective of providing economic activities will not be met. • Several potential employment opportunities will not be realized. • There will be no creation of employment· • There will be no additional facility to drive socio-economic development. • There will be no secondary development because of the project. • The improvement in infrastructure because of the project will not be realized • The value of land might improve but it will remain underdevelopment
Indirect impacts:
• There are no indirect impacts during the construction phase for the No-go Option.

Cumulative impacts:
There are no cumulative impacts during the construction phase for the No-go Option.

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
MAINTENANCE												
Maintenance workers may not trample natural vegetation and work should be restricted to previously disturbed footprint. In addition, mitigation measures as set out for the construction phase should be adhered to.	Local	Long term	Likely	Slight	Medium	High	low	Yes	Yes	All construction and maintenance activities should be carried out according to generally accepted environmental best practices. • Minimal clearing of vegetation and especially that which is clearly identified as natural undisturbed vegetation that is likely to be habitat for fauna. • If any faunal species are recorded during construction, activities should temporarily cease and allow for the species to move away. In the event a species does not move away, an appropriate specialist should	Very Low	5

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
										be consulted to identify the correct course of action • No trapping, killing or poisoning of any wildlife should be allowed on site during the construction phase;		
Bush encroachment and establishment and/or spread of Alien Plant Species	Local	Long term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	• The Alien Vegetation Management Plan must continue to be implemented. • The site should be monitored on a regular basis to ensure that no alien vegetation establishes on site. Any alien vegetation found during monitoring should be removed as per the Alien Vegetation Management Plan and the area should be appropriately rehabilitated in alignment with the Rehabilitation Plan.	Very Low	5
MORTALITIES AND INJURIES												
Avian mortalities and injuries because of birds creating short circuits between live wires, or	Local	Long term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	A review of best practice for mitigation of collision and electrocution impact at wind	Very Low	5

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
between live wire at the substation.										farms revealed the following mitigation measures to be effective and in use: • Installation of visual scares, reflectors. • Standard Eskom Bird Guards be fitted to all towers in the proposed substation. • Any dead birds found in the substation servitude to be photographed, position recorded and reported to Eskom.		
Nesting and other use of infrastructure by birds. Certain species, in particular doves, pigeons, weavers and crows, are likely to use some of the facility infrastructure for nesting, perching and roosting.	Local	Long term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	No mitigation is required for the impact of the facility on birds through nesting. For the impact of the birds nesting on the facility, nest management is recommended on a case-by-case basis under the supervision of an avifaunal specialist, and in conformance with all relevant national and provincial legislation	Moderate Positive	3
ENVIRONMENTAL POLICY												

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
Legal and policy compliance	Local	Long term	Likely	Moderate	Medium	Moderate	moderate	Yes	Yes	During the operation phase, failure to adhere to all permits, authorisations and regulations may lead to financial penalties and closure of the proposed development.	Very Low	5
BUILT ENVIRONMENT												
Improved quality of life due the provision of services	Local	Long term	Likely	Moderate	Medium	Moderate	moderate	Yes	Local	Regular maintenance and inspections of all infrastructure and services must be undertaken.	Very Low	5
Stormwater management. During the operation phase, failure of the stormwater system and or lack of maintenance of the stormwater system may result in the erosion and or pollution of the surrounding environment should the stormwater be contaminated.	Local	Long term	Likely	Slight	Medium	High	low	Yes	Local	• Stormwater management measures such as attenuation structures, channels, etc. must be properly maintained and monitored. • If the stormwater management measures put in place are deemed insufficient, a qualified engineer must be approached to assist with additional storm water attenuation mechanisms and remediation.	Moderate	3
SOCIO-ECONOMIC												
During the operational phase,	local	Long	Likely	Mod	Medium	Modera	mod	Yes	Yes	No Mitigation measure .	Moderate	3

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
there will be some temporary job opportunities associated with maintance work at the substation		term		erate		te	erate			Positive.		
Failure to comply with health and safety policies and protocols may result in injuries or death of the employees and the public.	Local	Long term	Likely	Slight	Medium	High	low	Yes	Local	-The site must be fenced off with tight security. -A health and safety plan in terms of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) must be adhered to and enforced by a HSE officer to ensure workers safety. - danger signs must be displayed onsite in at least three languages.	Very Low	5
SECURITY												
The presence of expensive equipment and materials at the facilities will always attract thieves.	Local	Long term	Likely	Slight	Medium	High	low	Yes	Yes	A provision of 24 hours security services and fencing of vulnerable areas of the facilities including buildings and will reduce the impacts to a low significance level.	Very Low	5
IMPACTS ON ROAD TRAFFIC												
Vehicles going into and from the project site facilities for any	Local	Long term	Likely	Slight	Medium	High	low	Yes	Yes	The impact is expected to be very minimal.	Very Low	5

8.2.3 PROPOSAL: IMPACTS THAT MAY RESULT FROM THE OPERATIONAL PHASE

Potential Impacts	Extent	Duration	Probability of impacts	Consequences	Significance of impact/risk	Reversibility of impacts	Irreplaceability	Can impact be avoided	Can impact be managed or mitigated?	Potential mitigation	Significance of residual risk	Ranking
purposes will use public roads to access the facilities.												
VISUAL IMPACTS												
Visual impacts	Local	Long term	likely	Slight	Medium	High	low	Yes	Yes	The site will not be visible from R510 road therefore visual impacts will not be experienced.	Very Low	5
Fire												
Fire risks	Local	Long term	likely	Slight	Medium	High	low	Yes	Yes	Maintenance work must be regular done on site with qualified personnel. A fire break must be established onsite.	Very Low	5

IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE												
Nature of Impacts	**Extent of impact**	**Duration of impacts**	**Probability of impacts**	**Consequences**	**Significance of impacts**	**Reversibility of impacts**	**Irreplaceability of receiving environment**	**Can impact be Avoided?**	**Can impact be mitigated?**	**Potential mitigation**	**Significance of residual impact**	**Ranking of impact/ risk**
WASTE MANAGEMENT												
All the rubble would need to be removed and disposed of Off-site. As a result, there will be a potential increase in the amount of waste sent to the landfill site.	Local	Long term	likely	Moderate	Moderate	Moderate	Low	Yes	Yes	All permanent buildings must be removed from the site. Removals should be phased so that rehabilitation can begin, and soil surfaces are not exposed for too long. All rubble must be removed to a licensed waste disposal facility. Alternative uses for all waste materials should be sorted and recycling should take place where possible. Infrastructure removal must be phased to reduce soil exposure and the risk of soil erosion. Rehabilitation should begin as soon as buildings are removed to ensure that soil is stabilised as soon as possible. Any fuel required on site must be stored in a bunded area with walls high enough to contain 110% of the total volume of the hazardous material. Care must be taken not to contaminate soils on site. A full rehabilitation plan needs to be compiled for the soils to be adequately rehabilitated to their original state	Low	4
Decommissioning activities causing erosion.	Local	Long term	Likely	Moderate	Moderate	Low	High	Yes	Yes	The site will need to be rehabilitated and re-vegetated preventing any possible erosion once decommissioning is complete. Control measures must be implemented during decommissioning.	Low	4

IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE												
Nature of Impacts	**Extent of impact**	**Duration of impacts**	**Probability of impacts**	**Consequences**	**Significance of impacts**	**Reversibility of impacts**	**Irreplaceability of receiving environment**	**Can impact be Avoided?**	**Can impact be mitigated?**	**Potential mitigation**	**Significance of residual impact**	**Ranking of impact/ risk**
Construction rubble / waste entering the water course could lead to Increased sedimentation and impact on water quality.	Local	Long term	Moderate	Substantial	Moderate	Low	High	Yes	Yes	Control measures must be implemented during decommissioning and care should be taken to prevent any rubble or other waste material entering any water course.	Low	4
Increase waste to Landfill site.	Local	Long term	Moderate	Substantial	Moderate	Low	High	No	Yes	Waste streams will be separated and recycled where possible to limit amount of waste added to the landfill site. Skip bins must be placed on site during the decommissioning phase to accommodate rubble and other waste. As with the construction and operating phases, separating and recycling of waste must be made a priority. All other waste must be moved to the Landfill site.	Low	4
AIR QUALITY												
Air pollution impacts	Local	Long term	Moderate	Substantial	Moderate	Moderate	Moderate	Yes	No	Dust created during the removal of the buildings and associated infrastructure could potentially adversely affect nearby landowners. This potential issue must be managed through the damping down of exposed soils. The rehabilitation of the site	Low	4

IMPACTS THAT MAY RESULT FROM THE DECOMMISSIONING PHASE												
Nature of Impacts	**Extent of impact**	**Duration of impacts**	**Probability of impacts**	**Consequences**	**Significance of impacts**	**Reversibility of impacts**	**Irreplaceability of receiving environment**	**Can impact be Avoided?**	**Can impact be mitigated?**	**Potential mitigation**	**Significance of residual impact**	**Ranking of impact/ risk**
										must be made a priority to avoid dust becoming an issue in the surrounding areas.		
FLORA AND FAUNA IMPACTS												
Flora and Fauna Impacts	Local	Long term	Definite	High	Moderate	Low	High	Yes	Yes	Care must be taken during the decommissioning phase to take account and not disturb any fauna which may have re-inhabited the area since the inception of the camp. No fauna must be harmed through the process. Indigenous vegetation must be utilised for the rehabilitation of the site. Vegetation like that of the surrounding areas should be used. A full rehabilitation plan is recommended in this regard to ensure that the site is returned to its original state. Any exotic species must be removed immediately during the rehabilitation process. The process should be carried out as quickly as possible to ensure that the disturbance of fauna is kept to a minimum.	Low	4
SOCIO-ECONOMIC IMPACTS												
Socio-economic Impacts	Local	Long term	Definite	Moderate	High	Low	High	No	No	Employees working on the site must be given sufficient notification of the closure of the site for them to search for alternative employment. All employees must be compensated for accordingly.	Moderate	3

THE POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY

Positive impacts

- Job creation
- Improved investment and growth in local economy
- Improved service delivery and standards of living.
- Development of the site will increase surrounding property value.
- Reduction of crime
- Growth of the Rural Economy

Negative Impacts

Hazard can be eliminated if compliance to the EMPr is strictly adhered too. The hazards that must be anticipated are:

- Noise generated during the construction phase, which is not going to be significant as construction will occur during the day.
- Dust Generation: Dust will also be controlled during a dust management plan as set out in the Environmental Management Programme.
- Hydrocarbon spillages. All the necessary precaution measures will be taken as clearly set out in the Environmental Management Programme.
- Poor management of topsoil. Topsoil management prior, during and after construction has been clearly described in the Environmental Management Programme. Contractors need to strictly adhere to these mitigation measures.
- Increased demand for services.
- Littering of site
- Loss of biodiversity due to clearance of vegetation
- Death and injury to birds

3. ENVIRONMENTAL IMPACT STATEMENT

Taking the assessment of potential impacts into account, please provide an environmental impact statement that summarises the impact that the proposed activity and its alternatives may have on the environment after the management and mitigation of impacts have been considered, with specific reference to types of impact, duration of impacts, likelihood of potential impacts occurring and the significance of impacts.

SUMMARY OF THE KEY FINDINGS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The proposed Smashblock Substation site that can be divided into two main areas, which is natural and transformed land, mostly because of the developments done on site, and possible past clearing activities that have occurred in the area. The natural areas is an area with a few indigenous species, The main potential environmental impacts associated with the proposed project include:

Air quality and dust emission

Vehicles transporting construction materials to and from the site, as well site preparation activities, excavation, processing and decommissioning activities will result in the generation of fugitive dust. Air quality emissions will be of low to very low significance. The recommended mitigation measures in this report should reduce the potential for these impacts on the ambient air quality.

Topography and Visual Alteration

Storage of material and equipment on site, vehicular activities, stockpiling of topsoil and buildings will alter the visual environment in the area. The impacts will be of moderate to low significance at the different phases and activities of the project. All reasonable measures need to be implemented to minimise and limit these impacts where possible, incorporating the recommended mitigation measures included in this report. Rehabilitation of the disturbed areas to have a neutral visual impact on the area.

Soil erosion

Construction activities on site will result in exposed soil, which could result in soil erosion. Erosion can lead to destruction of natural habitats and sedimentation of nearby watercourses. This impact will have a low probability of occurrence with implemented mitigation measures and ultimately low impact.

Soil and water resources contamination

The potential impact of contamination will arise throughout the life cycle of the proposed Smashblock substation because of contaminants such as fuels, waste material on site, spills etc. These possible contaminants need to be managed and prevented through an effective Emergency Response Plan and Stormwater Management Plan, as well as the development of an appropriate Groundwater Monitoring Plan to reduce the significance of these impacts.

Loss of vegetation and faunal habitat

Vegetation loss is unavoidable during the activities of the proposed development and operation of the Smashblock substation. The developmental footprint of the proposed Smashblock substation will impact on the natural vegetation and faunal habitats. Recommended mitigation measures described in the assessment must be adhered to, to reduce the impacts from moderate to low and special care must be taken to manage any species of special concern.

Destruction of features of heritage importance

If there are any heritage resources (palaeontology, possible archaeology and the cultural landscape) that will be encountered during the construction or operational of the proposed development would be impacted when the site is cleared and then excavated. The impacts would be direct but of very low significance. It is recommended that the Environmental Control Officer (ECO) and staff must be made aware of the possibility of uncovering fossils such as wood in the gravels and large stromatolites in the dolomite bedrock. With this plan in place the significance of impacts would be reduced from low to very low.

Impacts on Avifauna

The risk for the loss of birds is high through death and injury on the substation structures during the proposed development and operation of the substation.

Surface water

No surface drainage or rivers are present within the immediate vicinity of the proposed site, the closest surface water systems are approximately 2km away and therefore any contamination will likely to be attenuated and diluted before reaching regional discharge springs. Surface water impacts are therefore considered very low risk.

Land capability reduction

Removal of soil for excavation and site preparation during the construction and operation phase will impact the land capability in that it will prevent the support of vegetation growth thereof. The removed soil must be stockpiled and managed correctly to minimise this impact.

Soil replacement during rehabilitation has the potential to impact on the land capability as it will support the growth of vegetation.

Establishment and spread of alien plant species

Alien plant invasion is expected to occur in disturbed areas, however with the implementation of mitigation measures this impact can be reduced from moderate to low. This must be mitigated through the establishment of an alien invasive management plan to ensure the establishment of indigenous vegetation.

Socio-economic

Based on the environmental assessment presented in this report it is the conclusion of this Basic Assessment that the proposed project will have relatively low impacts on the environment. With effective implementation management and mitigation measures, as well as recommended monitoring plans suggested in this report and those of the specialists', the significance of most potential environmental impacts on site from an environmental perspective will be reduced to low-very low. There will be potential impacts on vegetation and habitat, groundwater, soil, dust, air quality and visual environment because of earthworks associated with the activity, influx and movement of vehicles, infrastructure, waste and waste water generated by the project as a whole. The Environmental Management Programme supporting this BA outlines adequate methods and mitigation measures that need to be implemented for the identified impacts to not pose any environmental flaws associated with the proposed development and operation of the substation facilities.

Assuming all phases of the project adhere to the conditions stated in the EMPr it is believed that the impacts associated with the proposed construction will have limited to no significant, adverse, long term environmental impact on the surrounding environment.

Positive impacts associated with construction include:

- Local economic growth and development;
- Employment opportunities and skills development; and
- Improved service delivery

It is perceived that these impacts will be long term and have sustainable benefits.

It must be ensured that the construction phase, in no way, hampers the health of any of the ecological systems, and that post-construction rehabilitation leaves the surrounding environments in an as good, if not better, state. After the construction phase of the project, the contractors must ensure that all hazardous materials are removed from the site.

Alternative A (preferred alternative)

The magnitude of the impacts is low i.e. natural and social functions and process are not affected or minimally affected. From the significance analysis of the impacts, none have higher impacts. This study therefore reflects that no social, environmental, economic or institutional reasons have been identified by this preliminary investigation as to why the proposed development should not proceed. Assuming compliance with the stipulated mitigation measure the perceived negative impacts of the proposed project will be minimized.

- There are no archaeological, rare or endangered floras or fauna species including red data species present on any of the alternative sites.
- The site is located near the R510 road.
- Eskom has confirmed availability the electrical supply.
- The site is close to Smashblock Community.
- Access Road has already been established.

No-go alternative (compulsory)

A No GO option means the Smashblock Substation project will not be implemented. Taking into consideration the findings of the BA process, it is the opinion of the EAP, that the project benefits outweigh the costs and that the project will make a positive contribution to sustainable infrastructure development in the region. The proposed project will play a key role in enabling and facilitating the sustainable development through the transmission electricity to the communities and mining areas. Provided that the specified mitigation measures are applied effectively the identified negative impacts can be mitigated. The mitigation measures necessary to ensure that the project is planned and carried out in an environmentally responsible manner are listed in this EMPr. The EMPr includes the mitigation measures noted in this report and the specialist studies.

Alternative B

N/A

Alternative C

N/A

For more alternatives, please continue as alternative D, E, etc.

SECTION E. RECOMMENDATION OF PRACTITIONER

Is the information contained in this report and the documentation attached hereto sufficient to make a decision in respect of the activity applied for (in the view of the environmental assessment practitioner)?	YES	NO

If “NO”, indicate the aspects that should be assessed further as part of a Scoping and EIA process before a decision can be made (list the aspects that require further assessment):

N/A

If “YES”, please list any recommended conditions, including mitigation measures that should be considered for inclusion in any authorisation that may be granted by the department in respect of the application:

To achieve appropriate environmental management standards and ensure that the findings of the environmental studies are implemented through practical measures, the recommendations from this study are included within an EMPr.

The EMPr must be used to ensure compliance with environmental specifications and management measures. The implementation of the EMPr for the life cycle phases of the project is vital in achieving the appropriate environmental management standards as detailed for this project. The proponent is not negated from complying with any other statutory requirements that is applicable to the undertaking of the activity. Relevant key legislation that must be complied with by the proponent includes inter alia:

- Provisions of the National Environmental Management Waste Act (No. 59 of 2008);
- Provisions of the National Water Act, 1998 (Act No 36 of 1998);
- Provisions of the National Heritage Resources Act, 1999 (Act No. 25 of 1999).
- Provisions of the National Environmental Management: Biodiversity Act, 2004 (Act 10 of 2004)

In addition, the following key conditions should be included as part of the authorisation:

- The proponent must appoint a suitably experienced (independent) Environmental Control Officer (ECO) for the construction phase of the development that will have the responsibility to ensure that the mitigation / rehabilitation measures and recommendations are implemented and to ensure compliance with the provisions of the EMPr.
- The development must be limited to the proposed footprint.
- The monitoring of the construction site must be carried out by a qualified Environmental Compliance Officer (ECO) with proven expertise in the field to ensure compliance to the Environmental Management Programme (EMPr).
- Environmental Awareness Training should be carried out at least once-off during the construction and decommissioning phases to ensure that staff is aware of environmental concerns and proper house-keeping recommendations
- Waste management must be undertaken rigorously during all phases of the proposed project and any non-compliance must be recorded by the ECO.

- Rehabilitation of cleared and disturbed areas must be undertaken. Rehabilitation measures should be instituted around the proposed on-site substation and laydown area that address exotic weed invasion, compaction of soils and maintenance of ecological function.
- Fences should be inspected daily to ensure that no animals are trapped against such fences and any mortalities associated with fences should be recorded.
- Implement an alien vegetation control program and ensure establishment of indigenous species within areas where alien vegetation is identified.
- Heritage and Cultural mitigation measures stipulated within this BA Report must be implemented during the construction phase.

The EMPr of this proposed project must form part of the contractual agreement and be adhered to by both the contractors and the applicant. The applicant must also ascertain that there is representation of the applicant on site, at all times of the project, ensuring compliance with the conditions of the EMPr and specialist reports, and Environmental Authorisation thereof.

Is an EMPr attached?	YES	NO

The EMPr must be attached as Appendix F.

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate:

Appendix A: EAP CV

Appendix B: Site plan(s)

Appendix C: Photographs

Appendix D: Public Participation

SECTION G: DECLARATION BY THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

I, **Beatrice Lesego Senna** declare that I –

(a) act as the independent environmental practitioner in this application;
(b) do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014;
(c) do not have and will not have a vested interest in the proposed activity proceeding;
(d) have no, and will not engage in, conflicting interests in the undertaking of the activity;
(e) undertake to disclose, to the competent authority, any material information that has or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the Environmental Impact Assessment Regulations, 2006;
(f) will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
(g) will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the Department in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the Department may be attached to the report without further amendment to the report;
(h) will keep a register of all interested and affected parties that participated in a public participation process; and
(i) will provide the Department with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not.

Signature of the Environmental Assessment Practitioner:

Lesekha Consulting
Name of company:

17 August 2021
Date: