DRAFT BASIC ASSESSMENT REPORT

FOR

PROPOSED TELECOMMUNICATION MAST FOR VODACOM – BS 0151974 RIETPAN
(PORTION 28 OF THE FARM GROENFONTEIN NO 395 IR)
REF NR GAUT 002/19-20/E2405

PREPARED FOR:
Vodacom (Pty) Ltd
P O Box 3114
Nelspruit
1200

COMPILED BY:
Lokisa Environmental Consulting CC
P O Box 219
Groenkloof
0027

Tel: 012 346 7655
Fax: 012 346 6074

Date: July 2019

Enq: E Minnaar

EXECUTIVE SUMMARY

Introduction

Umsebe Town Planners (on behalf of Vodacom (Pty) Ltd) appointed Lokisa Environmental Consulting CC to obtain Environmental Authorisation from the Gauteng Department of Agriculture and Rural Development (GDARD) for the proposed development of a new mast to be situated on Portion 28 of the farm Groenfontein No 395 IR ("the site") within the jurisdiction of the Lesedi Local Municipality.

Project description

The project entails the Construction of a 45m Lattice Mast within the footprint size of 10m x 10m area and a support container. The site is to accommodate three service providers.

Project locality

The site is situated approximately 6,7km west of the R51 and 8,7km north east of the R23, Lesedi Local Municipality.

The specific position where the mast is proposed to be erected is on the side slope of a koppie to the east of an existing commercial use.

Regulatory Environmental Requirements

GDARD is the lead authority carrying out the authorisation process in accordance with the National Environmental Management Act (Act No. 107 of 1998, "NEMA") (as amended)

The EIA process, applicable to this application, is determined by the Amendments to the Environmental Impact Assessment Regulations, 2014, published in Government Notice R982 in Government Gazette No 40772 of 7 April 2017 promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).

The EIA regulations inter alia describe the procedure for EIA and provide a description of activities that would require authorisation through either 1) a Basic Assessment (in terms of Government Notices R983 and R985 of 2014 (as amended 2017) or 2) Scoping and Environmental Impact Assessment (in terms of Government Notice R984 of 2014 (as amended 2017).

The listed activity associated with the proposed development falls within GN R985. The Basic Assessment (BA) procedure will apply to this application.

Basic Assessment Report

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

Phase 1: Project inception;

Phase 2: Basic Assessment and Environmental Management Programme; and
Phase 3: Authority review and response.

The report provides a description of the activity, description of property and location and a description of Environment, Public Participation Process followed, Legislation, Need and Desirability, Significant Impacts and Management as well as Mitigation.

Alternatives

The following alternatives in addition to the No-go alternative were evaluated:

Proposal: The project entails the construction of a 45m High Red and White Lattice Mast with a 10m x 10m Base Station to be situated next to a disturbed area of the current farm.

Alternative 1: This Alternative entails the construction of a 45m High Red and White Lattice Mast with a 10m x 10m Base Station to be situated on the koppie of the farm.

No impacts will be associated with the no-go option however the main impacts from the no-go alternative entails the continued stress to the existing water tower due to the weights from the antennae.

Public Participation

Lokisa Environmental Consulting CC conducted the Public Participation Process (PPP) for the proposed telecommunication mast development. It is for this reason that the PPP that forms part of the Basic Assessment becomes the basis for stakeholder engagement process.

During the PPP, the aim was to ensure that the full range of stakeholders were informed about the development throughout the period in question. In order to achieve this, a number of key activities have taken place and will continue to take place.

Public Participation was conducted according to the following steps:

- Notice boards were placed on site on 23 May 2019 ;
- Notices were hand delivered to adjacent property owners;
- Registered letters were sent to adjacent land owners on 23 May 2019;
- The Environmental Management Division of Lesedi Local Municipality was notified of the proposed development on 23 May 2019;
- The Ward Councillor was notified of the proposed development on 23 May 2019;
- An advert was placed in the Beeld on 23 May 2019.

Environmental Impact Assessment

The impacts of the project activities were determined by identifying the environmental aspects and then undertaking an environmental risk assessment to determine the significant environmental impacts.

The environmental impact assessment has considered all phases of the project, namely, construction and operational phases. It seems unlikely that decommissioning will be required at a later stage and this phase was not discussed.

The rating system used was applied to the potential impact on the receiving environment and included an objective evaluation of the mitigation of the impact. During the Basic Assessment Process, the impact of the proposed development on the biophysical and socio-economic environment was assessed. It was this assessment that allowed the EAP to make an informed analysis and provide an opinion on the proposed development.

Potential impacts associated with the proposed development include the following:

Construction phase:

- Dust/Air pollution
- Visual intrusion and light pollution
- Soil erosion, loss of topsoil, deterioration of soil quality and soil pollution
- Disturbance of surface geology for development foundations
- Degradation of habitats
- Impacts on fauna and flora
- Storm water flow and drainage
- Noise
- Impact on the privacy of adjacent land owners
- Safety and Security
- Job opportunities
- Hygiene and
- Waste

Operational phase:

- Alien invasion;
- Safety and security
- Impact of electromagnetic radiation on human health
- Visual impact
- Erosion of adjacent areas
- Aviation traffic

The cumulative impacts associated with the proposed development are as follows:

Disturbance of the site might lead to increased alien plant infestation.

Overall the impacts of the proposed development will range from medium to very low during the construction phase and from high to very low during the operational phase.

Several mitigation measures to reduce or improve these impacts have been identified and discussed in Section E of this report are also included in the Environmental Management Programme (EMPr) to ensure that the development is carried out in an environmentally responsible manner and that potential impacts identified for this development are adequately mitigated.

Environmental Impact Statement

As a necessary part of infrastructure and a business service, this development is bound to have a positive effect on the surrounding area in terms of communication, and it will provide a needed service to the immediate area.

From a purely biophysical perspective the area to be impacted on by the mast is relatively small and the site has already been disturbed, for the use of the site for agricultural and commercial purposes. The preferred position falls just outside a koppie area that is considered to be sensitive. The position for Alternative 1 falls in this sensitive area.

Besides the koppie, situated to the east of the site, there are no sensitive habitats such as water bodies present on site.

The biophysical impact of the development will be limited in a regional context, and will be more than offset by the social benefits. The proposed activity can therefore proceed from an environmental perspective.

The construction phase has the greatest impact on the environment even with mitigation. The negative impacts associated with the construction phase include:

- Soil and Ground Water pollution
- Increased run off of water
- Visual Intrusion & Light Pollution
- Destruction of Flora & Fauna
- Noise Pollution
- Atmosphere pollution and odours resulting from dust and construction equipment
- Safety & Security on the site
- Spread of Alien Vegetation

The construction phase will be associated with positive socio-economic impacts in terms of job creation. A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above. A key environmental imperative of the construction phase would be to prevent soil, air, water and noise pollution and erosion on the site.

The negative impacts relating to the operational phase include the following:

- Due to the disturbance of the site alien plants will be able to establish and could become a problem by infesting neighbouring land,
- The visual impact .

A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above.

The primary positive impacts relate to the improved communications network in the area.

The construction phase will be of short-term and the operational phase will have limited environmental impacts if constructed according to the conditions outlined in this report and if managed according to the EMPr.

From a property value point of view it should be understood that the immediate area has little visual value and the placing of a cellular structure at the site will not cause any further degradation

From a health perspective a large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile telephone use, World Health Organisation. Furthermore there is widespread public concern about the potential adverse health effects of mobile phones and their associated base stations. Alongside this there are hundreds of conflicting reports in the media about the health effects of mobile phones & base stations, however the scientific literature is large and confusing also apparently showing very inconsistent effects across studies. This makes it difficult to draw any conclusions on the effects of base stations on human health, Elaine Fox, Research Professor at the University of Oxford.

From a visual perspective, the following details cannot be ignored:

- Type of mast: A lattice mast is proposed for the site. This type of mast is considered to be the most suitable and structurally stable structure to accommodate the large number of equipment which is intended to be mounted on the mast. This type of mast generally has a lower visibility rating that a solid structure due to its transparent nature. Unfortunately the large numbers of equipment intended to be mounted on it will increase the visual exposure and visibility rating, should they not be painted in a grey colour proposed for the mast.

Overall the impacts of the proposed development will range from medium to very low during the construction phase and from high to very low during the operational phase.

The table below provides a summary of the identified impacts, their pre-mitigation and post mitigation impact significance rating scores.

Table 1.1: Summary of Impacts of Proposal

Summary of impacts	Significance rating of impacts before mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE		
1.1 Dust/Air pollution: The generation of fugitive dust associated with construction activities & earthworks.	Insignificant	Insignificant
2.1. Visual Intrusion and Light Pollution: Lights from the contractor's camp and construction site could be visually intrusive.	Insignificant	Insignificant
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Insignificant	Insignificant
3.2 Soil pollution	Insignificant	Insignificant
3.3 Disturbance of surface geology for development foundations	Very Low	Very Low
4.1 Degradation, destruction of habitats/ ecosystem -	Very Low	Very Low
4.2 Impacts on fauna and flora	Low	Very Low
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	Medium	Low
6.1 Noise/ vibration	Insignificant	Insignificant
6.2 Impact on the privacy of adjacent land owners	Insignificant	Insignificant
7.1 Safety and Security	Insignificant	Insignificant
7.2 Job opportunities	Medium (positive)	Low
7.3 Hygiene	Very Low	Very Low
8.1 Destruction of cultural / heritage sites	Insignificant	Insignificant
9.1 Waste	Very Low	Very Low
OPERATIONAL PHASE		
1.1 Alien invasion	Medium	Low
2.1 Safety & Security	Low	Very Low
3.1. Impact of Electromagnetic radiation on human health	Insignificant	Insignificant
4.1 Visual impact – 45m Lattice Mast	High	High
5.1 Erosion of adjacent areas	High	Medium
6.1 Aviation traffic - Structure might impact on air traffic if it does not have day markings	High	Medium
7.1 Property values	Medium	Low

Conclusion

In line with the requirements of the NEMA EIA Regulations (2014) (as amended 2017), this report provides, an explanation of the activities undertaken during the BA process and information on PPP is also provided. Importantly the report addresses the impacts identified that were anticipated for the development, as well as providing mitigation measures to ensure for the environmentally sustainable development of the project.

Should the proposed mitigation measures be implemented correctly, the proposed mast development will be a viable development.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

APPENDICES

- Appendix 8 – Comments from I&APs on amendments to the BA Report
- Appendix 9 – Copy of the register of I&APs
- Appendix 10 – Comments from I&APs on the application
- Appendix 11 – Other

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

- Visual Impact Study

Appendix H: EMPr

Appendix I: Other information

DEFINITIONS

Activity (Development)	An action either planned or existing that may result in environmental impacts through pollution or resource use. For the purpose of this report, the terms 'activity' and 'development' are freely interchanged.
Alternatives	Different means of meeting the general purpose and requirements of the activity, which may include site or location alternatives; alternatives to the type of activity being undertaken; the design or layout of the activity; the technology to be used in the activity and the operational aspects of the activity.
Applicant	The project proponent or developer responsible for submitting an environmental application to the relevant environmental authority for environmental authorisation.
Biodiversity	The diversity of animals, plants and other organisms found within and between ecosystems, habitats, and the ecological complexes.
Construction	The building, erection or establishment of a facility, structure or infrastructure that is necessary for the undertaking of a listed or specified activity but excludes any modification, alteration or expansion of such a facility, structure or infrastructure and excluding the reconstruction of the same facility in the same location, with the same capacity and footprint.
Cumulative impact	The impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.
Decommissioning	The demolition of a building, facility, structure or infrastructure.
Direct Impact	Impacts that are caused directly by the activity and generally occur at the same time and at the same place of the activity. These impacts are usually associated with the construction, operation or maintenance of an activity and are generally quantifiable.
Ecosystem	A dynamic system of plant, animal (including humans) and micro-organism communities and their non-living physical environment interacting as a functional unit. The basic structural unit of the biosphere, ecosystems are characterised by interdependent interaction between the component species and their physical surroundings. Each ecosystem occupies a space in which macro-scale conditions and interactions are relatively homogenous
Environment	In terms of the National Environmental Management Act (NEMA) (No 107 of 1998)(as amended), "Environment" means the surroundings within which humans exist and that are made up of: a) the land, water and atmosphere of the earth; b) micro-organisms, plants and animal life; c) any part or combination of (i) of (ii) and the interrelationships among and between them; and d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.
Environmental Assessment	The generic term for all forms of environmental assessment for projects, plans, programmes or policies and includes methodologies or tools such as environmental impact assessments, strategic environmental assessments and risk assessments.
Environmental Authorisation	An authorisation issued by the competent authority in respect of a listed activity, or an activity which takes place within a sensitive environment.]
Environmental	The individual responsible for planning, management and

Assessment Practitioner (EAP)	coordination of environmental impact assessments, strategic environmental assessments, environmental management programmes or any other appropriate environmental instrument introduced through the EIA Regulations.
Environmental Management	Ensuring that environmental concerns are included in all stages of development, so that development is sustainable and does not exceed the carrying capacity of the environment.
Environmental Management Programme (EMPr)	A detailed plan of action prepared to ensure that recommendations for enhancing or ensuring positive impacts and limiting or preventing negative environmental impacts are implemented during the life cycle of a project. This EMPr focuses on the construction phase, operation (maintenance) phase and decommissioning phase of the proposed project.
Environmental Impact	Change to the environment (biophysical, social and/ or economic), whether adverse or beneficial, wholly or partially, resulting from an organisation's activities, products or services.
Environmental Issue	A concern raised by a stakeholder, interested or affected parties about an existing or perceived environmental impact of an activity.
Fatal Flaw	Issue or conflict (real or perceived) that could result in developments being rejected or stopped. In the context of an environmental impact assessment a fatal flaw can be termed as an environmental issue that cannot be mitigated by any means
General Waste	Household waste, construction rubble, garden waste and certain dry industrial and commercial waste, which does not pose an immediate threat to man or the environment.
Groundwater	Water in the ground that is in the zone of saturation from which wells, springs, and groundwater run-off are supplied.
Hazardous Waste	Waste that may cause ill health or increase mortality in humans, flora and fauna.
Hydrology	The science encompassing the behaviour of water as it occurs in the atmosphere, on the surface of the ground, and underground.
Important areas	Sites that are important for the conservation of biodiversity in Gauteng; (Gauteng C-Plan Version 3)
Indirect Impacts	Indirect or induced changes that may occur as a result of the activity. These types if impacts include all of 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.
Interested and Affected Party (I&AP)	Any person, group of persons or organisation interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.
Irreplaceable areas	Sites, which are essential in meeting targets set for the conservation of biodiversity in Gauteng; (Gauteng C-Plan Version 3)
Mitigate	The implementation of practical measures designed to avoid, reduce or remedy adverse impacts or enhance beneficial impacts of an action.
No-Go Option	In this instance the proposed activity would not take place, and the resulting environmental effects from taking no action are compared with the effects of permitting the proposed activity to go forward.
Public Participation Process	A process in which potential interested and affected parties are given an opportunity to comment on, or raise issues relevant to, specific matters.
Rehabilitation	A measure aimed at reinstating an ecosystem to its original function and state (or as close as possible to its original function and state) following activities that have disrupted those functions.
Sensitive Environments	Any environment identified as being sensitive to the impacts of the development.
Significance	Significance can be differentiated into impact magnitude and impact significance. Impact magnitude is the measurable change (i.e. magnitude, intensity, duration and likelihood). Impact

	significance is the value placed on the change by different affected parties (i.e. level of significance and acceptability). It is an anthropocentric concept, which makes use of value judgements and science-based criteria (i.e. biophysical, social and economic).
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.
Sustainable Development	Development which meets the needs of current generations without hindering future generations from meeting their own needs.
undeveloped	means that no facilities, structures or infrastructure have been effected upon the land or property during the preceding 10 years
urban areas	means areas situated within the urban edge (as defined or adopted by the competent authority), or in instances where no urban edge or boundary has been defined of adopted, it refers to areas situated within the edge of built-up areas
vacant	Means not occupied for the purpose of its lawful land use during the preceding ten year period
watercourse	Means (a) a river or spring; (b) a natural depression in which water flows regularly or intermittently; (c) a wetland, lake or dam into which, or from which, water flows; and (d) any collection of water which the Minister may, by notice in the Gazette, declare to be a watercourse, and a reference to a watercourse includes, where relevant, its bed and bank
wetland	Means land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil

ABBREVIATIONS

BID	Background Information Document
BSc	Bachelor of Science
CBA	Critical Biodiversity Area
CC	Close Corporation
C-Plan	Gauteng Conservation Plan Version 3.3
DWS	Department of Water and Sanitation
GDARD	Gauteng Department of Agriculture and Rural Development
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
EMZ	Environmental Management Zone
ESA	Ecological Support Area
Ha	Hectares
HIA	Heritage Impact Assessment
I&APs	Interested and Affected Parties
IDP's	Integrated Development Plans
Km	Kilometers
LDO	Land Development Objectives
m	Meters
NEMA	National Environmental Management Act
NGO's	Non-Governmental Organisations
OHSA	Occupational Health and Safety Act
PHRA-G	Provincial Heritage Resources Authority - Gauteng
(Pty) Ltd	Proprietary Limited
RSDF	Regional Spatial Development Frameworks
SAHRA	South African Heritage Resources Agency

GAUTENG PROVINCE
AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Basic Assessment Report in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014 (Version 1)

Kindly note that:

1. This **Basic Assessment Report** is the standard report required by GDARD in terms of the EIA Regulations, 2014.
2. This application form is current as of 8 December 2014. It is the responsibility of the EAP to ascertain whether subsequent versions of the form have been published or produced by the competent authority.
3. **A draft Basic Assessment Report must be submitted, for purposes of comments within a period of thirty (30) days, to all State Departments administering a law relating to a matter likely to be affected by the activity to be undertaken.**
4. **A draft Basic Assessment Report (1 hard copy and two CD's) must be submitted, for purposes of comments within a period of thirty (30) days, to a Competent Authority empowered in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended to consider and decide on the application.**
5. Five (5) copies (3 hard copies and 2 CDs-PDF) of the final report and attachments must be handed in at offices of the relevant competent authority, as detailed below.
6. 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.
7. Selected boxes must be indicated by a cross and, when the form is completed electronically, must also be highlighted.
8. An incomplete report may lead to an application for environmental authorisation being refused.
9. **Any report that does not contain a titled and dated full colour large scale layout plan of the proposed activities including a coherent legend, overlain with the sensitivities found on site may lead to an application for environmental authorisation being refused.**
10. 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 competent authority for assessing the application, it may result in the application for environmental authorisation being refused.
11. No faxed or e-mailed reports will be accepted. Only hand delivered or posted applications will be accepted.
12. Unless protected by law, and clearly indicated as such, all information filled in on this application will become public information on receipt by the competent authority. The applicant/EAP must provide any interested and affected party with the information contained in this application on request, during any stage of the application process.
13. Although pre-application meeting with the Competent Authority is optional, applicants are advised to have these meetings prior to submission of application to seek guidance from the Competent Authority.

DEPARTMENTAL DETAILS

Gauteng Department of Agriculture and Rural Development
Attention: Administrative Unit of the of the Environmental Affairs Branch
P.O. Box 8769
Johannesburg
2000

Administrative Unit of the of the Environmental Affairs Branch
Ground floor Diamond Building
11 Diagonal Street, Johannesburg

Administrative Unit telephone number: (011) 240 3377
Department central telephone number: (011) 240 2500

(For official use only)

NEAS Reference Number:	
File Reference Number:	
Application Number:	
Date Received:	

If this BAR has not been submitted within 90 days of receipt of the application by the competent authority and permission was not requested to submit within 140 days, please indicate the reasons for not submitting within time frame.

N/A

Is a closure plan applicable for this application and has it been included in this report? **NO**

if not, state reasons for not including the closure plan.

It is not envisaged that the mast, once constructed, will be decommissioned.

Has a draft report for this application been submitted to a competent authority and all State Departments administering a law relating to a matter likely to be affected as a result of this activity? **YES**

Is a list of the State Departments referred to above attached to this report including their full contact details and contact person? **YES**

If no, state reasons for not attaching the list.

Have State Departments including the competent authority commented? **NO**

If no, why?

Comment from the State Departments and the Competent Authority on the Draft Report is awaited.

SECTION A: ACTIVITY INFORMATION

1. PROPOSAL OR DEVELOPMENT DESCRIPTION

Project title (must be the same name as per application form):

PROPOSED TELECOMMUNICATION MAST FOR VODACOM – BS 0151974 RIETPAN

Select the appropriate box

The application is for an upgrade of an existing development		The application is for a new development	X	Other, specify	

Does the activity also require any authorisation other than NEMA EIA authorisation?

YES	NO

If yes, describe the legislation and the Competent Authority administering such legislation

1. Application for telecommunication masts in the Lesedi Municipality is done in terms of the Lesedi Local Municipality Spatial Planning and Land Use Management By-Law, 2015

2. Civil Aviation Approval in terms of Aviation Act (74 of 1962)

If yes, have you applied for the authorisation(s)?	YES	**NO**
If yes, have you received approval(s)? (attach in appropriate appendix)	YES	**NO**

2. 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:

Aviation Act (Act No. 74 of 1962)	**Civil Aviation**	**21 July 1962**
Conservation of Agricultural Resources Act (Act 43 of 1983)	**Department of Agriculture Forestry and Fisheries**	**1983**
Gauteng Conservation Plan (C-Plan Version 3.3)	**GDARD**	**2011**
Gauteng Environmental Management Framework	**GDARD**	**2015**
Gauteng Ridges Guideline April 2001 (Amended 2004 and 2006, updated and approved February 2019)	**GDARD**	**20001/2019**
Gauteng Spatial Development Framework	**Provincial**	**2011**
Lesedi Local Municipality Spatial Planning and Land Use Management By-Law, 2015	**Lesedi**	**2015**
Lesedi Local Municipality Integrated Development Plan 2019/20	**Lesedi**	**2019**
Lesedi Local Municipality Spatial Development Framework 2016	**Lesedi**	**2016**
Lesedi Local Municipality Town Planning Scheme	**Lesedi**	**2003**
National Environmental Management Act No. 107 of 1998 as amended.	**National & Provincial**	**27 November 1998**
NEMA EIA Regulations, 2014 (Government Notice Nos. 982, 983, 984 and 985)	**National Department of**	**2014**

	Environmental Affairs and GDARD	
Municipal Systems Act (No. 32 of 2000)		2000
National Development Plan, 2011	National Planning Commission	2011
National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	National Department of Environmental Affairs and	2004
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM:WA)	National Department of Environmental Affairs and GDARD	2008
National Heritage Resources Act, 1999 (Act No 25 of 1999) as amended, particularly Chapter II, Section 38	SAHRA	1999
National Water Act, 1998 (Act No. 36 of 1998)	Department of Water Affairs	1998
Occupational Health & Safety Act, 1993 (Act No. 85 of 1993) (OHSA) as amended in July 2001, including Major Hazard Installation Regulation, GNR 692, 30 July 2001.	National Government	2001
Spatial Planning and Land Use Management Act (Act No.16 of 2013)	Department of Rural Development and Land Reform	2013

Description of compliance with the relevant legislation, policy or guideline:

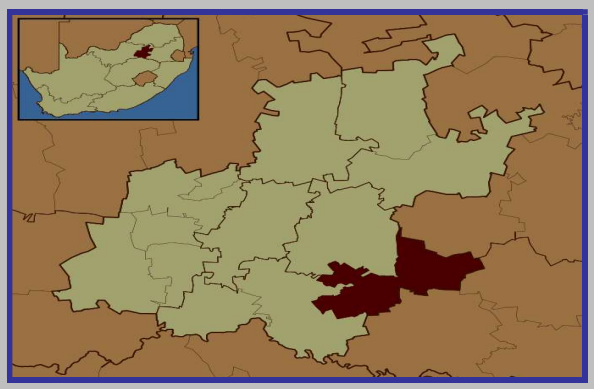
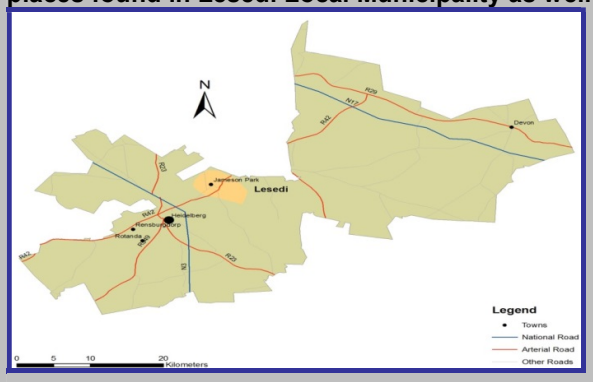
Legislation, policy of guideline	Description of compliance
Aviation Act, Act No. 74 of 1962	The main objective of this Act is to consolidate the laws enabling effect to be given to certain International Aviation Conventions and making provision for the control, regulation and encouragement of flying within the Republic of South Africa and for other matters incidental thereto. In order to comply with the requirements of this Act, an Application for approval of obstacles will be submitted to the competent authority for their approval.
Lesedi Local Municipality By-Laws	The proposed development will be constructed to comply with the Lesedi Local Municipality Johannesburg By-Laws. An application is to be submitted to them for approval prior to the development taking place.
Lesedi Local Municipality 2019/20 Final IDP	Lesedi Local Municipality is a local municipality situated in the Sedibeng District Municipality of Gauteng, South Africa. Heidelberg is the seat of the municipality and during the first war of independence, Heidelberg served as capital of the Zuid Afrikaansche Republiek, from 1880 to 1883. The figure below shows the map of Gauteng with Lesedi Local Municipality highlighted. 

	Figure 1: Location of Lesedi **Lesedi Local Municipality can be described as a primarily rural area, the major urban concentration located in Heidelberg/Ratanda, which is situated along the N3 freeway at its intersection with Provincial Route R42, east of the Suikerbosrand Nature Reserve. Devon/Impumelelo, which is situated on the eastern edge of the Municipal area, abutting the N17 freeway on the north is a significant rural settlement, while Vischkuil/ Endicott east of Springs abutting Provincial Route R29 is a smaller rural centre. The following map indicates places found in Lesedi Local Municipality as well as the major transport routes:**  **Figure 2: Transportation routes** **Lesedi spans an area of ±1430km², which is largely rural, with two towns situated with within it, namely Heidelberg/Ratanda in the western part, and Devon Impumelelo on its eastern edge. The area can be described as mostly agricultural, with Heidelberg and Devon being the primary service centers for the surrounding agricultural areas.** **As far as its sub-regional context is concerned, Lesedi is situated approximately 56km southeast of Johannesburg and is traversed by two national roads, namely the N17 and the N3, which create future economic development potential.** **According to Census (2011), the population of Lesedi was estimated at 99 520, which reflects a population increase of about 27 652 since 2001. According to the recent community survey the population of Lesedi Local Municipality is now sitting at 116 922. Therefore, the total population of Lesedi accounts for only 10.9% of the total population of the district. Approximately 74.9% of the total population of Lesedi resides in the urban areas of Heidelberg/ Ratanda and Devon/Impumelelo, while the rest 25.1% is categorized as rural.** **The LLM Process Plan formulated and adopted detailed outlines aimed at helping Lesedi to embark on its own focused IDP Review Process. The process commenced July 2018 and was completed in May 2019. The Process Plan outlines the time frames of scheduled events, structures involved and their respective roles and responsibilities.** **The development of the proposed cellular mast is in line with the desired outcome of the IDP.**
Lesedi Local Municipality Spatial Development Framework 2040	**Lesedi Local Municipality Spatial Development Framework (SDF) is intended, in part, to comply with Section 26(e) of the Municipal Systems Act, Act No. 32 of 2000), which requires a municipality to prepare and adopt an SDF as a component of its Integrated Development Plan (IDP). The Spatial Development Framework is a process through which a municipality prepares a strategic spatial development plan for a medium to long term period as a means to facilitate effective implementation of the IDP. It will serve as principal spatial**

	planning instrument which guides and informs all planning, land management, development and spatial decision-making in a municipality. **The preparation of the Lesedi Municipal SDF further intended to properly align with the 20-year horizon of the municipal vision contained in the Municipality's Integrated Development Plan. This document forms part of an integrated planning system guided by law and policies, mainly to formulate a spatial framework which will regionally and locally address the intentions of the National Development Plan of 2011, the principles of the Spatial Planning and Land Use Management Act No. 16 of 2013, and in pursuance of its Rural Development Strategy and District Growth Development Plan.** **The following spatial benefits are sought :** • **Facilitation of decision making with regard to the location of service delivery projects and guides public and private sector investment;** • **It strengthens democracy and spatial transformation and facilitates effective use of scarce land resources;** • **It promotes intergovernmental coordination on spatial issues and serves as a framework for the development of detailed Land Use Management Scheme (LUMS).** **The previous Spatial Development Framework under review was done in 2010/2011 financial year and after four financial years, the Lesedi has realize a profound need for spatial reconfiguration as a response to emerging spatial, economic and infrastructure pressures and alignment to specific local, regional plans and policies. The current SDF is intended to provide Lesedi with a decision making tool to ensure accomplishment of sustainable development goals of the area. At the centre of this is to redress the spatial injustice and rigorous integration of socio-economic and environmental consideration in land use management in order to balance current development needs with those of the future generation in a radical and transformative manner. The municipality therefore aims to review the said SDF to incorporate Gauteng provincial development targets and address any development trends experienced within Lesedi Municipal area, regional scale and within neighbourhood municipality.** **The environmental state of Lesedi Local Municipality can be described as one that does not need strategic interventions in order to attain a balance between development and environmental capability. The Municipality is thus far managing the concept of urban densification and keeping away from agricultural potential land and areas of environmental significant, this includes river valleys and diverse topography.** **The development vision of Lesedi Municipality is underpinned by the principles of the Spatial Planning and Land Use Management Act and those of Gauteng Provincial Growth and Development Strategy and subsequently aligned to the key spatial strategies for the municipality. These principles are subsequently entrenched in the overarching principles of the erstwhile Development Facilitation Act which sought to influence spatial planning decisions to do the following: • Promote integration of social, economic, institutional, and physical aspects of land development. • Integrated land development in rural and urban areas in support of each other. • The availability of residential and employment opportunities in close proximity to or integrated with each other. • Optimise the use of existing resources relating to agriculture, land, minerals, bulk infrastructure, roads, transportation, and social facilities. • Promote a diverse combination of land uses, also at the level of individual stands or subdivisions of land. • Discourage the phenomenon of urban sprawl in urban areas and contribute to the development of more compact towns and cities. • Contribute to the correction of historically distorted spatial patterns of settlement. • Encourage environmentally sustainable land development practices and processes. These principles have informed the planning and development**

	strategies intended to carve the future spatial outlook for Lesedi Municipality and its inhabitants whilst contributing to National and Provincial developmental targets. **Responsible planning and socio-economic development must not be undertaken at the detriment of environmental protection, conservation and management. This will mean ensuring efficiency in resource use, energy, transport, etc. The reason is that the natural environment, especially in the case of Lesedi produces resources which are the basic inputs to economic activities and therefore, the differentiation and integration of space becomes relevant in this regard. For example, the spatial categorisation which follows the urban-rural-wilderness continuum allows for opportunities to be created but also putting checks and balances in place to regulate land use and development. These differentiated spaces become the bases for (i) where development can occur and not occur; (ii) what type of activity can be allowed or not allowed; and (iii) the level of intensity of activity to be allowed in specific locations in Lesedi Municipality.** **The proposed development is not in interfering with the proposed outcomes of the Spatial Development Framework.**
Conservation of Agricultural Resources Act (Act No. 43 of 1983)	**The proposed development will not impact on agricultural resources as the area is not utilised for agricultural purposes.**
Gauteng Conservation Plan (C-Plan Version 3.3)	**Gauteng Conservation Plan (C-Plan Version 3.3)** **GDARD's (Gauteng Department of Agriculture and Rural Development) C-Plan (Gauteng Conservation Plan Version 3.3) was used to determine the sensitivities of the site and is provided below in Figure 3.** **Conservation planning was started in Gauteng in the year 2000 and the aim was to revise the C-Plan at least every 5 years. C-Plan Version 1 was produced in 2001 and was followed by version 2 in 2005. Version 2 was refined in 2007 and was named Version 2.1. The small size of the province made it feasible to conduct an extensive biodiversity survey, named BGAP, which aimed to provide the information on spatial occurrence of biodiversity necessary for rigorous conservation planning. C-Plan 3 represents priority areas for biodiversity conservation in the Gauteng province.** **C-Plan 3 is based on the systematic conservation protocol developed by Margules & Pressey (2000) and is based on the principles of complementarity, efficiency, defensibility and flexibility, irreplaceability, retention, persistence and accountability. Systematic conservation planning is an iterative process.** **Knowledge of the distribution of biodiversity, the status of species, approaches for dealing with aspects such as climate change, methods of data analysis, and the nature of threats to biodiversity within a planning region are constantly changing, especially in the Gauteng province which is developing at an extremely rapid rate. This requires that the conservation plan be treated as a living document with periodic review and updates.** **An extract of the sensitivities that could affect the site in terms of the C-Plan is provided below for ease of reference.**

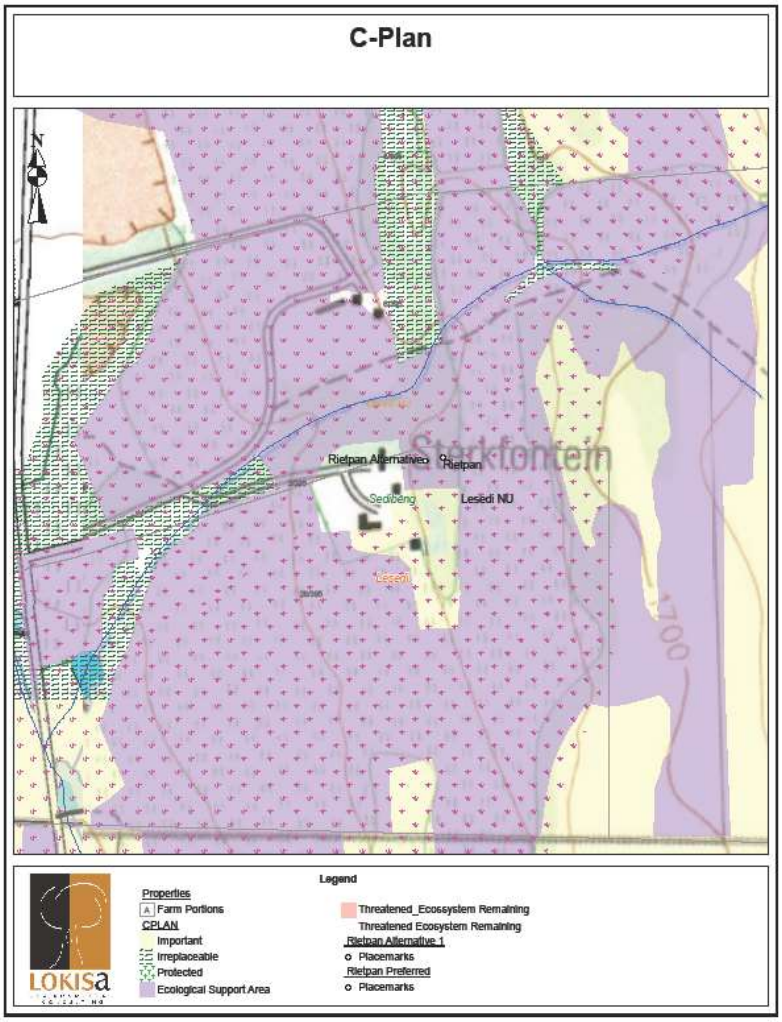


Figure 3: C-Plan for the site

According to the GDARD C-Plan v.3.3 the sites are situated within an Ecological Support Area.

Gauteng Environmental Management Framework	**Gauteng Environmental Management Framework** **The guiding objectives that emerged during the course of the developed of the GEMF are:** • **To facilitate the optimal use of current industrial, mining land and other suitable derelict land for the development of non-polluting industrial and large commercial developments.** • **To protect Critical Biodiversity Areas (CBAs as defined in C-Plan 3.3) within urban and rural environments.** • **To ensure the proper integration of Ecological Support Areas (ESAs as defined in C-Plan 3.3) into rural land use change and development.** • **To use ESAs as defined in municipal bioregional plans in spatial planning of urban open space corridors and links within urban areas.** • **To focus on the sustainability of development through the implementation of initiatives such as:** ▪ **Energy efficiency programmes, plans and designs;** ▪ **Waste minimisation, reuse and recycling;** ▪ **Green infrastructure in urban areas; and** ▪ **Sustainable Drainage Systems (SuDS).**

The Environmental Management Zones (EMZ) were derived from the desired state, the environmental sensitivity as well the unique control areas as identified in sections 1, 2 and 3. The EMZs were also presented to the Gauteng Planning Forum 6 where it was generally accepted as a suitable contribution to facilitate appropriate development in Gauteng. The EMZs also took the Gauteng Growth and Management Perspective, 2014, into account and is therefore aligned to the general development policy for Gauteng.

Five EMZs were identified and overlaying those a further six Special Management Areas were identified where specific planning and policy measures are necessary to achieve the development objective of those areas.

The proposed development site falls within Zone 3: High control zone (outside the urban development zone).

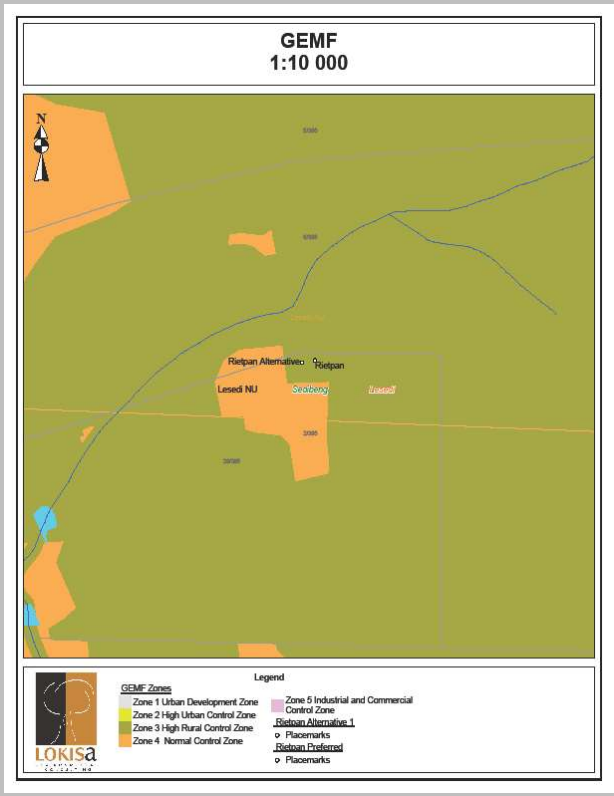


Figure 4: Gauteng Environmental Management Framework

<u>Zone 3: High control zone (outside the urban development zone)</u>
<u>Intention</u>
Special control zones are sensitive areas outside the urban development zone. These areas are sensitive to development activities and in several cases also have specific values that need to be protected.

<u>Composition</u>
The following areas have been identified in this zone:
• CBAs (Irreplaceable and important areas) and ESAs outside the urban development zone as defined in C-Plan 3.3;
• Rivers (including a 32m buffer on each side) and currently undeveloped ridges that must be conserved;
• Areas that are sensitive (as determined in the sensitivity assessment); and
• Protected areas.

	Land uses that are <u>conditionally compatible</u> with the intention of this zone **• Crop production (excluding existing crop production).** **• Agricultural infrastructure.** **• Holiday housing.** **• Roads.** **• Water network.** **• Sanitation network.** **• Electricity network.** **• Telecommunication.** **• Transport.** **• Holiday resorts, camps, loges and cottage hospitality.** **• Hospitality industry.** **• Protection services.** **• Post offices.** **The proposed telecommunication structures are conditionally compatible with the intention of Zone 3.**
Gauteng Ridges Guideline April 2001 (Amended 2004 and 2006, updated and approved February 2019)	**The quartzite ridges of Gauteng are one of the most important natural assets in the northern provinces of South Africa. This is because these ridges, and the area immediately surrounding the ridges, provide habitats for a wide variety of fauna and flora, some of which are Red Listed rare and endemic species or, in the case of certain of the plant species, are found nowhere else in South Africa or the world. The ridges also fulfill functions that are necessary for the sustainability of ecosystems such as the recharging of wetlands and rivers, wildlife dispersal and providing essential habitats for pollinators. Ridges also have a socio-cultural role in that they provide aesthetically pleasing environments that are valued by residents, tourists and recreational users. Human activities such as urbanization, mining and the planting of alien vegetation may undermine the contribution that ridges make to the environment.** **<u>Purpose and objectives of the policy</u>** **The purpose of this guideline is to set out the Department's policy on the conservation, development and use of ridges with a view to ensuring that –** **• The use of ridges is sustainable;** **• Members of the public are able to make informed decisions regarding proposals for the development on ridges and the use of the ridges;** **• Officials make consistent decisions in respect of planning and environmental application that involve negative impacts on ridges; and** **• The Department's responsibility in respect of the environment is carried out in an efficient and considered manner.** **The guidelines are also set out to assist applicants who are required to undertake an Environmental Impact Assessment and to facilitate the quicker administration of such applications.** **<u>Scope of application</u>** **This guideline applies to all ridges in Gauteng. For the purposes of this guideline, a ridge includes hills, koppies, mountains, kloofs and gorges and /or a landscape type or topographic feature characterized by two or more of the following features – a crest, plateau, cliff or foot slope. In addition, ridges are characterized by slopes 5° or more (that is equivalent to slopes of > 8.8% or >1:11 gradient) when modeled in a Geographic Information System digital elevation model that is based on 20m contour intervals at a scale of 1:50 000.** **Most ridges which fall within the scope of this guideline have been mapped by the Department in an ArcView shape file. Ridges that have been identified by the Department include (but are not limited to) the Bronberg, Daspoortrant, Gatsrant, Klipriviersberg, Kwaggasrant, Linksfield Ridge, Magaliesbrg,**

	Meintjieskop, Melville Koppies, Perdeberg, Pyramid Koppies, Roodepoort Ridge, Silverton Ridge, Skurweberg, Smuts Koppies, Suikerborsrand, Swartkop and Witwatersrand. **The proposed development site lies to the west of a Class 2 ridge according to the GDARD C-Plan 3.3 the area along the crest of the ridge is considered an Ecological Support Area.** **<u>Ridge classification</u>** **Class 3 ridges are ridges that have been transformed by 35% or more, but by less than 65%, as a result of human activity (Approximately 8% of ridges currently fall within Class 3, including the Northcliff, Roodepoort and Krugersdorp ridges).** **<u>General guidelines on ridges</u>** **The guidelines which are applicable to the use and development of the different classes of ridges are set out below:** **Class 3 ridges: The guidelines for Class 2 ridges will be applied to areas of the ridge that have <u>not</u> been significantly impacted on by human activity.** **The guidelines for Class 4 ridges will be applied to areas of the ridge that have been significantly impacted on by human activity.** **Class 2 ridges: Development activities and uses that have a high environmental impact on a Class 2 ridge will not be permitted.** **Class 4 ridges: Further development activities will not be supported in areas of the ridge where the remaining contiguous extent of natural habitat is 4ha or more.** **The site does not appear to fall on a ridge.**
Gauteng Spatial Development Framework, 2012	**The GSDF are in pursuit of planning for shared, equitable, sustainable and inclusive growth and development in the country. The Gauteng Provincial Government (GPG) seeks to:** • **provide a clear future provincial spatial structure that is robust to accommodate growth and sustainability;** • **specify a clear set of spatial objectives for municipalities to achieve in order to ensure realisation of the future provincial spatial structure;** • **propose a set of plans that municipalities have to prepare in their pursuit of these objectives;** • **provide a common language and set of shared planning constructs for municipalities to use in their planning processes and plans; and** • **enable and direct growth.** **The Gauteng City Region aims to develop as a significant emerging conurbation based on sustainable principles:** • **significantly reducing reliance on private mobility in favour of safe, convenient and affordable public transport and non-motorised transport;** • **significantly reducing present rates of non-renewable energy usage;** • **reducing the rates of energy expended in the manufacture of goods, the delivery of these goods to the market and the importation of goods;** • **integrating open space systems into the city region and providing sustainable ecosystems, urban agriculture and quality of life as a fundamental of the province's development patterns;** • **increasing the intensity of urban form and the complexity of mixed-use development with a view to restricting, as far as possible, the options to extend the present footprint of the province's urban spread; and** • **promoting a democratic urban order in terms of access to opportunity**

	for all **The proposed development of does not take place in contrast with any of the principles of the GSDF.**
National Development Plan, 2011	**The National Planning Commission (NPC) has developed the National Development Plan: Vision for 2030 (NDP) for South Africa. It integrates previous strategic policies with new approaches to make the economy work better for all. The Diagnostic Report which was released in June 2011 set out South Africa's achievements and shortcomings since 1994. The central challenges identified include:** **• Too few people work;** **• The standard of education for most black learners is of poor quality;** **• Infrastructure is poorly located, under-maintained and insufficient to foster higher growth;** **• Spatial patterns exclude the poor from the fruits of development;** **• The economy is overly and unsustainably resource intensive;** **• A widespread disease burden is compounded by a failing public health system;** **• Public services are uneven and often of poor quality;** **• Corruption is widespread;** **• South Africa remains a divided society.** **The plan focuses on addressing three relevant core challenges which are :(a) reducing poverty, (b) inequality and (c) unemployment. In reaction to these fundamental challenges, the NDP outlines the key development areas which require focus. These are:** **• Creating jobs and livelihoods;** **• Expanding infrastructure;** **• Transition to a low-carbon economy;** **• Transform urban and rural spaces;** **• Improving education and training;** **• Providing quality health care;** **• Building a capable state;** **• Fighting corruption and enhancing accountability;** **• Transforming society and uniting the nation.** **The proposed cellular mast adheres to the NDP by n putting in place the things that people need such as a better telecommunications network.**
National Environmental Management Act (Act No. 107 of 1998) as amended.	**Numerous mitigation measures have been provided for the potential impacts that have been identified for the proposed development. This will ensure that the following principles as set out in Section 2 of NEMA are taken into account:** **• That the disturbance of ecosystems and loss of biodiversity are avoided, or, where they cannot be altogether avoided, minimised and remedied;** **• Pollution and degradation of the environment are avoided, or , where they cannot be altogether avoided are minimised and remedies;** **• That waste is avoided or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;** **• That the disturbance of landscapes and sites that constitute the nation's cultural heritage is avoided, or where it cannot be avoided, is minimised and remedied.**
NEMA EIA Regulations, 2014 (Government Notice Nos. GN R982, R983,	**The EIA process, applicable to this application, is determined by the Environmental Impact Regulations published in Government Notice R982 in Government Gazette No 38282 of 4 December 2014 promulgated under Chapter 5 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) and amended in 2017.**

R984, R985) as amended 2017.	**The EIA regulations inter alia describe the procedure for EIA and provide a description of activities that would require authorisation through either 1) a Basic Assessment (in terms of Government Notices R983 and R985 of 2014) or 2) Scoping and Environmental Impact Assessment (in terms of Government Notice R984 of 2014).** **An application is submitted in terms of Chapter 4 of the EIA Regulations as the proposed development triggers activities that require a Basic Assessment.** **NEMA EIA Regulations, 2014 (Government Notice Nos. GN R982, R983, R984, R985) as amended 2017.** **Activity listed under GN R983:** **Activity 3- The Development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower: (a) to be placed on a site not previously used for this purpose; and (b) will exceed 15m in height** **(c) Gauteng** **i. A protected area identified in terms of NEMPAA, excluding conservancies;** **ii. National Protected Area Expansion Strategy Focus Areas;** **iii. Gauteng Protected Area Expansion Priority Areas;** **iv. Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or in bioregional plans;** **v. Sites identified within threatened ecosystems listed in terms of the National Environmental Management Act: Biodiversity Act (Act No. 10 of 2004);** **vi. Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority;** **vii. Sites or areas identified in terms of an international convention** **viii. Sites managed as protected areas by provincial authorities, or declared as nature reserves in terms of the Nature Conservation Ordinance (Ordinance 12 of 1983) or the NEMPAA;** **ix. Sites designated as nature reserves in terms of municipal Spatial Development Frameworks;** **x. Sites zoned for conservation use or public open space or equivalent zoning; or** **xi. Important Bird and Biodiversity Areas (IBA).**
National Environmental Management: Biodiversity Act (Act No. 10 of 2004)	**The objectives of this Act are-** **Within the framework of the National Environmental Management Act, to provide for –** **(i) the management and conservation biological diversity of within the Republic and of the components of such biological diversity;** **(ii) the use of indigenous biological resources in a sustainable manner and** **(ii) the fair and equitable sharing among stakeholders of benefits arising from bioprospecting involving indigenous biological resources.** **The proposed development does not occur in contrast with the objectives of the Act.**
National Environmental Management: Waste Act (Act No. 59 of 2008) (NEM:WA)	**The objective of this act is to protect health, well-being, and the environment by providing measures for-** • **Minimising consumption of natural resources;** • **Avoiding and minimising the generation of waste;** • **Reducing, reusing, recycling and recovering waste;** • **Treating and safely disposing of waste as last resort;** • **Preventing pollution and ecological degradation;** • **Securing ecologically sustainable development while promoting justifiable economic and social development.** **The proposed development does not occur in contrast with the objectives of the Act.**
National Strategy for	**The National Strategy for Sustainable Development, 2011 (NSSD 1) is a proactive strategy that regards sustainable development as a long term**

Sustainable Development, 2011	**commitment, which combines environmental protection, social equity and economic efficiency with the vision and values of the country.** **It is based on five strategic objectives as follows:** **• Enhancing systems for integrated planning and implementation** **• Sustaining our ecosystems and using natural resources efficiently** **• Towards a green economy** **• Building sustainable communities** **• Responding effectively to climate change.** **The strategy calls for an interdependency approach across the various sectors and action on sustainability. It covers the key areas of human development (people), ecological protection (the planet) and economic growth (prosperity). In order to be competitive in the future economic landscape, the NSSD 1 requires new ways of doing business as well as progressive leaders who are willing and able to incorporate a long-term vision in their planning. Furthermore, the strategy invites all role players to engage in an on-going and constructive dialogue. This will be inspired by the need to develop a more efficient and equitable economy. It is critical that all role players implement the strategy initiatives and that collective actions make a significant contribution to environmental sustainability.** **The preferred alternative site is situated on an area that is more degraded than the alternative and it is believed that the objectives of the strategy is adhered to.**
National Heritage Resources Act (Act No. 25 of 1999)	**Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and, as they are valuable, finite, non-renewable and irreplaceable, they must be carefully managed to ensure their survival.** **It is not expected that the proposed development will impact on any heritage resources however should any heritage resources be discovered a chance find procedure will be followed whereby** **• If during the duration of the project, any person employed by the developer, one of its subsidiaries, contractors and sub-contractors, or service provider, finds any artefact of cultural significance or heritage site, this person must cease work at the site of the find and report this find to their immediate supervisor, and through their supervisor to the senior on-site manager.** **• It is the responsibility of the senior on-site Manager to make an initial assessment of the extent of the find, and confirm the extent of the work stoppage in that area and to contact SAHRA.**
National Water Act (Act No. 36 of 1998)	**The purpose of this Act is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways that takes into account amongst other factors:** **• Promoting equitable access to water** **• Redressing the results of past racial and gender discrimination;** **• Promoting the efficient, sustainable and beneficial use of water in the public interest;** **• Facilitating social and economic development;** **• Providing for growing demand for water;** **• Protecting aquatic and associated ecosystems and their biological diversity;** **• Reducing and preventing pollution and degradation of water resources;** **• Meeting international obligations** **• Promoting dam safety;** **• Managing floods and drought.** **• The proposed development does not occur in contrast with the objectives of the Act.**

	The proposed development does not occur in contrast with the objectives of the Act.
Occupational Health & Safety Act (Act No. 85 of 1993) (OHSA) as amended in July 2001, Including Major Hazard Installation Regulation, GNR 692, 30 July 2001.	**The main objective of the Act is to provide for the health and safety of persons at work and for the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected herewith.** **The proposed development site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) [OHSA] and the National Building Regulations.**
Rural Development Programme, 2009	**Lesedi is predominantly, a rural Municipality, thus taking account of how existing rural development policies from the Department of Rural Development & Land Reform are relevant. Overarching to these policies is the Comprehensive Rural Development Programme (CRDP), which has the aim of development of rural South Africa, particularly creating vibrant, sustainable and equitable rural communities. The CRDP is different from past government strategies in rural areas due to its approach which focus on proactive participatory community-based planning rather than an interventionist approach to rural development.** **The CRDP has two main themes which it wishes to address, namely (a) Agricultural Reform; and (b) Land Reform. National government envisages the rural development to be done through agrarian transformation, which implies the rapid and fundamental change in the relations (systems and patterns of ownership and control) of land, livestock, cropping and the communities.** **The project is to take place in a rural area and will provide an important service to the community.**

3. ALTERNATIVES

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

The no-go option must in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. **Do not** include the no go option into the alternative table below.

Note: After receipt of this report the competent authority 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.

Please describe the process followed to reach (decide on) the list of alternatives below

In terms of the NEMA Regulations, 2014 (as amended, 2017), the definition of alternatives is given as: 'Alternatives' in relation to a proposed activity, means different means of meeting the general purpose and requirement of the activity, which may include alternatives to the –

(a) property on which or location where the activity is proposed to be undertaken;
(b) type of activity to be undertaken;
(c) design or layout of the activity;
(d) technology to be used in the activity; or
(e) operational aspects of the activity;
and includes the option of not implementing the activity;

Alternatives can therefore be used to achieve the same result as the originally proposed

project in way that potentially offset the negative implication of the original plan. However, alternatives that are to be considered must be reasonable and feasible.

The purpose if this development is to build a cellular mast with ground level infrastructure (base station) in a footprint of 100m2. This new proposed location for a telecoms tower with base station is part of this ever expanding demand for mobile technology. The site is ideally located to be: 1) an excellent location due to its elevation relative to the surrounding area, 2) is central to the community which will ensure 360 degrees penetration ensuring fewer masts in the future, and 3) by leasing land from the landowner there is direct socio-economic benefit to the land owner and indirect socio-economic benefit to the community.

A. Locational Alternative

The search for a suitable site starts with the identification of the need for improved cellular coverage in the identified area.

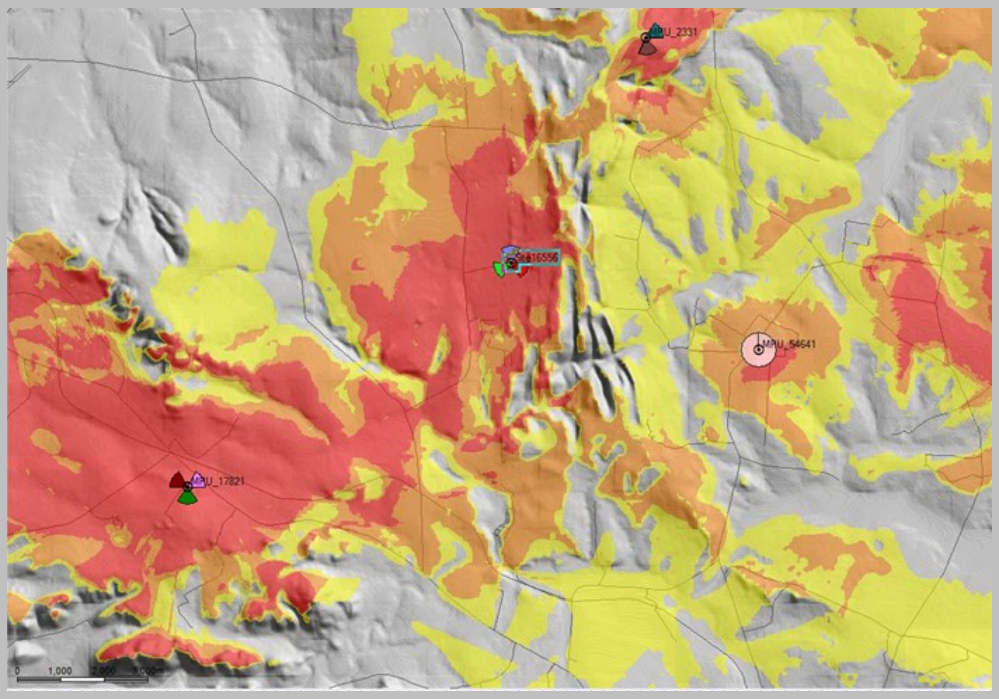


Figure 5: Coverage Map

The Radio Planners indicate the optimal position and sites within a 500m of this position is investigated.

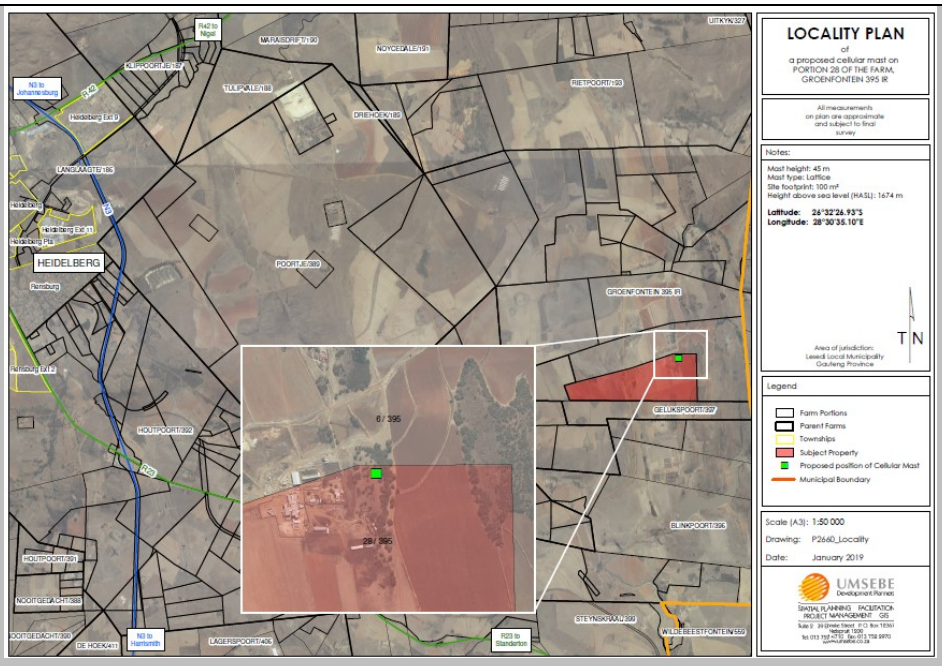


Figure 6: Locality Plan

A team investigates all possible positions within the 500m radius and approach land owners in order to lease a portion of their land for the structure. Several options are investigated before a lease agreement is reached. The following criteria led to the site being chosen as the preferred alternative:

- **Available 'spare' land;**
- **Geographically elevated in relation to the surrounding landscape;**
- **Land owners willingness and consent to sublet a portion of their land;**
- **A defined and owned portion of land, i.e. must have a lot/ERF number;**
- **Access can be easily attained; and,**
- **Electrical reticulation is available and in close proximity.**

Two alternative positions at the subject site were investigated being :

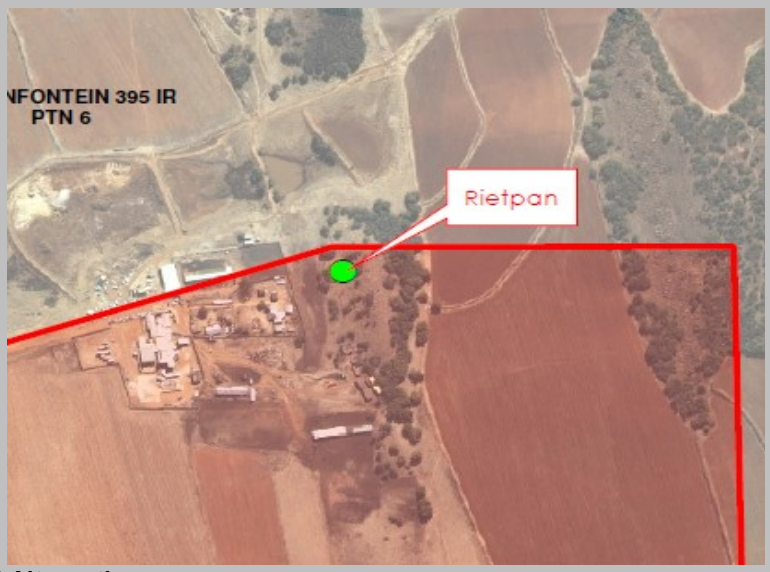


Figure 7: Preferred Alternative

Figure 8: Alternative 1

B. Type of Activity Alternative

A cell site, cell tower, or cellular base station is a cellular-enabled mobile device site where antennae and electronic communications equipment are placed typically on a radio mast, tower, or other raised structure in order to create a cell (or adjacent cells) in a cellular network. As a raised structure is required that will support antennae and one or more sets of transmitter / receivers transceivers, digital signal processors, there is no replacement option to the proposed mast structure. No reasonable or feasible alternatives in terms of the type of activity to be undertaken were therefore be investigated. Additionally, there are no operational alternatives.

The site is to accommodate multiple service providers to provide coverage to the residential uses, specifically those that are experiencing difficulty due to the undulating nature of the area.

C. Design/Layout Alternative

The proposal entails the construction of a 45m Lattice Mast within the footprint size of 100m2 and a support container. Alternatives considered for design and/or layout relate to the placement of the ground-level area relative to existing buildings, trees and access. A position in close proximity to the access road is preferred and it is typical for base to be situated on the roadside boundary of the receiving property.

For this project the ideal position is on the crest of the highest point of the site being the koppie. Alternative 1 is placed on the crest of the koppie but does not have direct access whereas the preferred Alternative is situated just below the crest but in an area that is degraded and has easy access.

In terms of design there are several alternatives to be considered: a lattice type mast; a monopole type mast; a Mono-lattice type mast; and, a tree type mast.

Structurally and simplistically a lattice type mast is the best option. Lattice Tower - also referred to as a self-supporting tower affords the greatest flexibility and is often used in heavy loading conditions. A lattice tower is typically three or four sided, with similar shaped bases. In this regard, the undulating landscape with high trees, the developed nature of the area and the urban classification of areas makes the expected visual impact to be low as the structure is highly transparent. Factors that favoured lattice structures include low cost, easy to transport, ease of erection mainly in hilly areas and areas far away from the roadside, manual erection of the

tower, availability of suppliers and large space available for the installation. As the subject site has a limited area available of the placement of a cellular structure this alternative was not deemed to be suitable.

Monopoles are polygonal sectioned and hot dip galvanized hollow steel structures with consequent body sections either slip jointed or bolted. These are single self-supporting or free-standing pole and are most commonly used in cellular and personal communication service applications. They are typically constructed of different diameter steel sections either cylindrical or multi sided in shape. The individual sections are bolted or welded together with the largest diameter sections at the base and each successive section is smaller in diameter. The base costs include the tower, erection, concrete footings, painting, lighting, platforms and overhead. Monopoles are a viable alternative for locations near to main road or locations easily accessible for heavy machinery used for foundation and construction of monopole structures and accessories. Monopoles are generally more costly than lattice towers due to the higher cost of plates and they require specialised plate bending. However, they do not require a large footprint for the foundation and a smaller area of the site is to be used.

A Mono-lattice mast is a combination of the above types of masts and is a continuous tapered bottom with lattice top.

Tree type masts are used to camouflage cellular structures and have become common practice in urban areas. However, the major problem is that these cell phone towers, to many people, do not look like trees. Instead of blending in with the tree canopy, these embellished towers, which already stand higher than many nearby trees, are said to stand out even more than plain cell phone towers. However, the complaints against these tree-like towers do not necessarily indicate that they fail as camouflage. The molded metal and plastic components that serve to conceal the towers are made to appear identical to the bark, branches, and needles or leaves of a tree, especially from a distance. Because of this, and the many variations that exist with their design, it is very possible that most people, even those who complain about them, do not notice a lot of the camouflaged towers that they pass. Due to the height of the proposed mast at 45m this option was not considered to be viable.

The type of mast that has been proposed for the site is the Lattice mast as it is deemed to be more transparent than other alternatives.

D. Technology Alternative

The construction of the telecommunication mast is governed by approved procedures and SABS standards, thus there is limited scope for introducing alternatives to this aspect, however, the construction materials to be utilised can be varied.

Use of energy efficient, sustainable and environmentally friendly building materials and products is highly recommended.

E. Operational Alternatives

No reasonable or feasible alternatives in terms of the operational aspects of the activity were investigated as the purpose of the application is for a cellular mast.

F. No-Go Alternatives

Should the no-go option be followed, cellular coverage will continue to deteriorate at an exponential rate, as use and demand increase as users consume more data unless another position for the proposed site is found. The no-go alternative will entail leaving the site in its present state.

Provide a description of the alternatives considered

No.	Alternative **type**, either alternative: site on property, properties, activity, design, technology, energy, operational or other(provide details of "other")	Description
1	**Proposal**	**<u>Proposed project</u>** **The project entails the construction of a 45m Lattice Mast with a 10m x 10m Base Station to be situated east of an existing dwelling on Portion 28 of the farm Groenfontein 395 IR.**  **Figure 9 – 45m Lattice mast Coordinates: S 26° 32' 27.19" E 28° 30' 33.43"** **<u>Project locality:</u>** **The site is situated approximately 6,7km west of the R51 and 8,7km north east of the R23, Lesedi Local Municipality.** **The specific position where the mast is proposed to be erected is on the western slope of a steep and rocky koppie and to the west of an existing clearing. A Concrete foundation will be required in order to create a level and stable base station as well as ready access thereto. This position is in close proximity to a clearing that provides access to the site.**

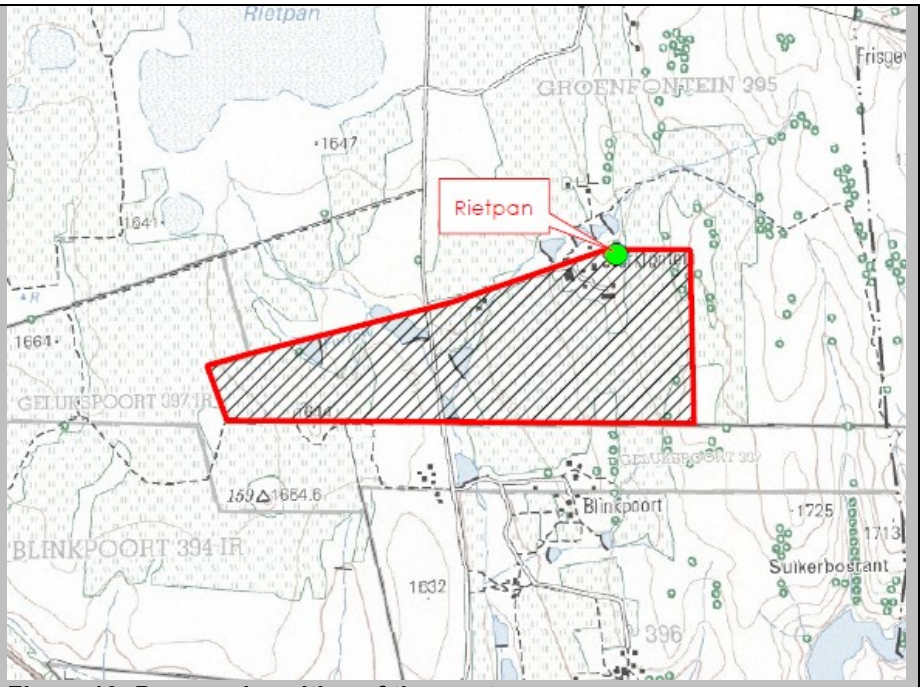


Figure 10: Proposed position of the mast

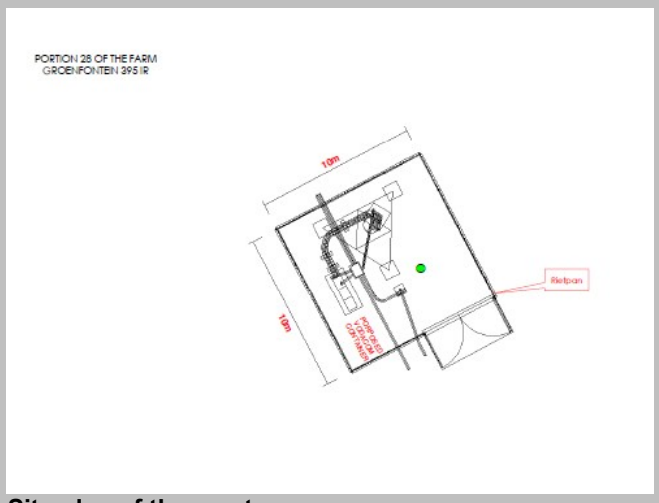


Figure 11: Site plan of the mast

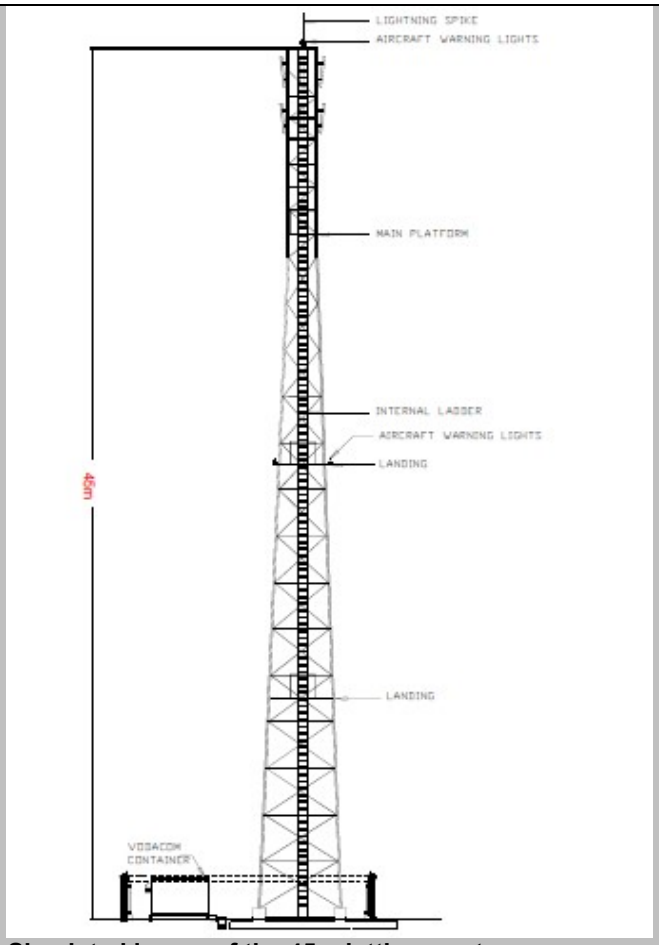


Figure 12: Simulated image of the 45m lattice mast

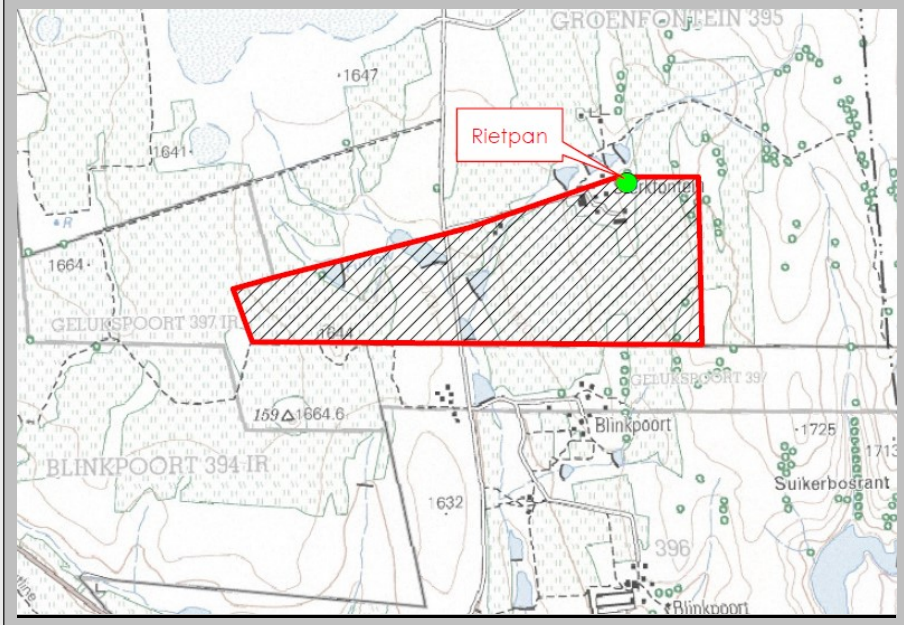
<u>Regulatory process:</u>

In terms of the National Environmental Management Act, Act 1998 (Act No. 107 of 1998) and associated EIA Regulations, an environmental authorisation should be obtained from the relevant decision making authority, prior to the commencement of certain listed activities that may result in negative impacts on the environment.

Authorisation is sought for the following activities triggered by the proposed development:

Table 1: Listed activities triggered by the proposed development

Government Notice	Activity No.	Description of activity as per the wording in the listing notices:
GN. R 985, December 2014 (As amended 2017)	3	The development of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes where the mast or tower – a) Is to be placed on a site not previously used for this purpose; and b) Will exceed 15 metres in height – But excluding attachments to existing buildings and masts on rooftops. c. Gauteng

				i) A protected area identified in terms of NEMPAA, excluding conservancies. **iv) Sites identified as Critical Biodiversity Areas (CBAs) or Ecological Support Areas (ESAs) in the Gauteng Conservation Plan or bioregional plans.** **vi) Sensitive areas identified in an environmental management framework adopted by the relevant environmental authority.** **The proposed development site falls within an Ecological Support Area.**
2	**Alternative 1**	**Proposed Alternative 1** **The project entails the construction of a 45m Lattice Mast with a 10m x 10m Base Station to be situated on the crest of the koppie at Portion 28 of the farm Groenfontein 395 IR.**  **Figure 13: 45m Lattice Mast Coordinates: 26° 32' 26.93" S 28° 30' 35.10" E** **At a height of 45 metres the Civil Aviation Authority will require the mast to be painted red & white.**	
3	**Alternative 2**			
	Etc.			

In the event that no alternative(s) has/have been provided, a motivation must be included in the table below.

N/A

4. PHYSICAL SIZE OF THE ACTIVITY

Indicate the total physical size (footprint) of the proposal as well as alternatives. Footprints are to include all new infrastructure (roads, services etc), impermeable surfaces and landscaped areas:

	Size of the activity:
Proposed activity ***(Total environmental (landscaping, parking, etc.) and the building footprint)***	**0,001ha/ 100m2**
Alternatives:	
Alternative 1 (if any)	**0,001ha /100m2**
Alternative 2 (if any)	

Ha/ m^2

or, for linear activities:

	Length of the activity:
Proposed activity	
Alternatives:	
Alternative 1 (if any)	
Alternative 2 (if any)	

m/km

Indicate the size of the site(s) or servitudes (within which the above footprints will occur):

	Size of the site/servitude:
Proposed activity	214.1330H
Alternatives:	
Alternative 1 (if any)	214.1330H
Alternative 2 (if any)	

Ha/m^2

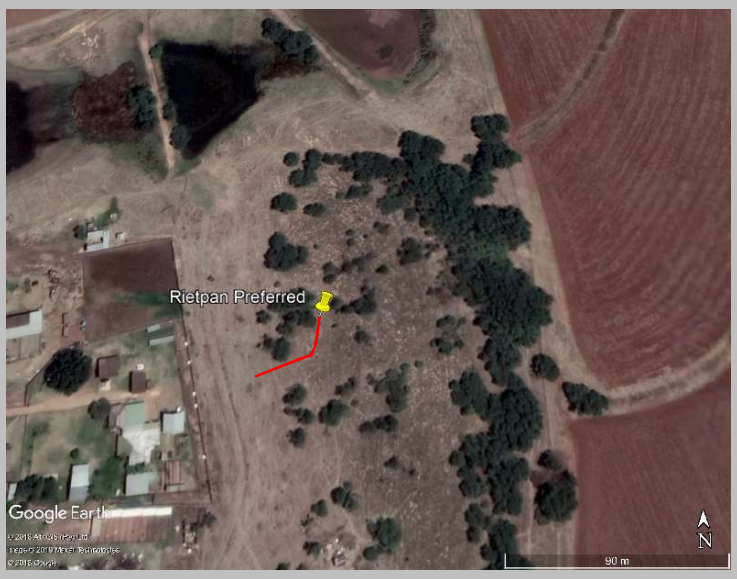
5. SITE ACCESS

Proposal

Does ready access to the site exist, or is access directly from an existing road?	**YES**	NO
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

Access will be via a jeep track that serves the existing labourers dwelling. The Jeep track will be approximately 45m in extent.



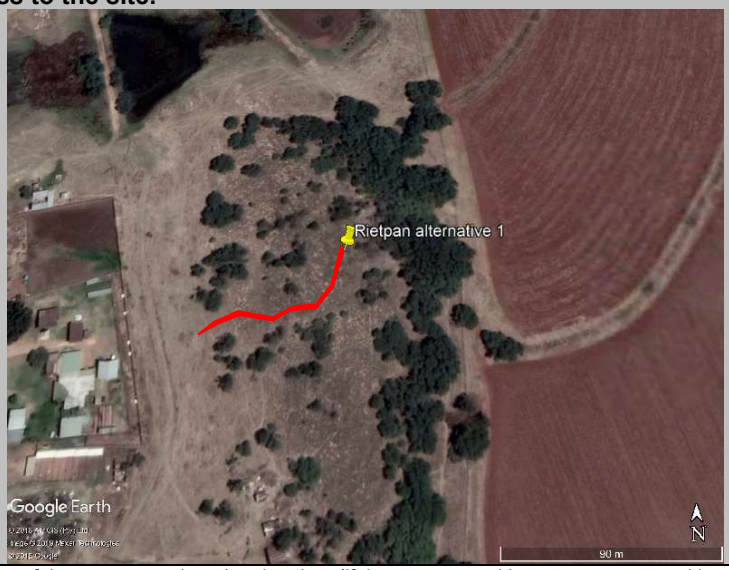
Include the position of the access road on the site plan (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 1

Does ready access to the site exist, or is access directly from an existing road?	YES	**NO**
If NO, what is the distance over which a new access road will be built		**216m**

Describe the type of access road planned:

Access will be via a jeep track that serves the existing labourers dwelling and approximately 216m will be cleared of large rocks, boulders and vegetation in order to provide access to the site.



Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

Alternative 2

Does ready access to the site exist, or is access directly from an existing road?	YES	NO
If NO, what is the distance over which a new access road will be built		m

Describe the type of access road planned:

Include the position of the access road on the site plan. (if the access road is to traverse a sensitive feature the impact thereof must be included in the assessment).

PLEASE NOTE: Points 6 to 8 of Section A must be duplicated where relevant for alternatives

Section A 6-8 has been duplicated ☐ Number of times

(only complete when applicable)

6. LAYOUT OR ROUTE PLAN

A detailed site or route (for linear activities) plan(s) must be prepared for each alternative site or alternative activity. It must be attached to this document. The site or route plans must indicate the following:

- the layout plan is printed in colour and is overlaid with a sensitivity map (if applicable);
- layout plan is of acceptable paper size and scale, e.g.
  - A4 size for activities with development footprint of 10sqm to 5 hectares;
  - A3 size for activities with development footprint of > 5 hectares to 20 hectares;
  - A2 size for activities with development footprint of >20 hectares to 50 hectares);
  - A1 size for activities with development footprint of >50 hectares);

- The following should serve as a guide for scale issues on the layout plan:
  - A0 = 1: 500
  - A1 = 1: 1000
  - A2 = 1: 2000
  - A3 = 1: 4000
  - A4 = 1: 8000 (±10 000)
- shapefiles of the activity must be included in the electronic submission on the CD's;
- the property boundaries and Surveyor General numbers of all the properties within 50m of the site;
- the exact position of each element of the activity as well as any other structures on the site;
- the position of services, including electricity supply cables (indicate above or underground), water supply pipelines, boreholes, sewage pipelines, septic tanks, storm water infrastructure;
- servitudes indicating the purpose of the servitude;
- sensitive environmental elements on and within 100m of the site or sites (including the relevant buffers as prescribed by the competent authority) including (but not limited thereto):
  - Rivers and wetlands;

- the 1:100 and 1:50 year flood line;
- ridges;
- cultural and historical features;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);

- Where a watercourse is located on the site at least one cross section of the water course must be included (to allow the position of the relevant buffer from the bank to be clearly indicated)

FOR LOCALITY MAP (NOTE THIS IS ALSO INCLUDED IN THE APPLICATION FORM REQUIREMENTS)

- the scale of locality map must be 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 locality map and all other maps must be in colour;
- locality map must show property boundaries and numbers within 100m of the site, and for poultry and/or piggery, locality map must show properties within 500m and prevailing or predominant wind direction;
- for gentle slopes the 1m contour intervals must be indicated on the map and whenever the slope of the site exceeds 1:10, the 500mm contours must be indicated on the map;
- areas with indigenous vegetation (even if it is degraded or infested with alien species);
- locality map must show exact position of development site or sites;
- locality map showing and identifying (if possible) public and access roads; and
- the current land use as well as the land use zoning of each of the properties adjoining the site or sites.

Refer to Appendix A for the Site Plans.

7. SITE PHOTOGRAPHS

Colour photographs from the center 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 the appropriate Appendix**.** It should be supplemented with additional photographs of relevant features on the site, where applicable.

Refer to Appendix B for the Photographs.

8. FACILITY ILLUSTRATION

A detailed illustration of the activity must be provided at a scale of 1:200 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 to be attached in the appropriate Appendix.

Refer to Appendix C for the Facility illustration.

SECTION B: DESCRIPTION OF RECEIVING ENVIRONMENT

Note: Complete Section B for the proposal and alternative(s) (if necessary)

Instructions for completion of Section B for linear activities

1) For linear activities (pipelines etc) it may be necessary to complete Section B for each section of the site that has a significantly different environment.
2) Indicate on a plan(s) the different environments identified
3) Complete Section B for each of the above areas identified
4) Attach to this form in a chronological order
5) Each copy of Section B must clearly indicate the corresponding sections of the route at the top of the next page.

Section B has been duplicated for sections of the route | **0** | times

Instructions for completion of Section B for location/route alternatives

1) For each location/route alternative identified the entire Section B needs to be completed
2) Each alterative location/route needs to be clearly indicated at the top of the next page
3) Attach the above documents in a chronological order

Section B has been duplicated for location/route alternatives | **1** | times (complete only when appropriate)

Instructions for completion of Section B when both location/route alternatives and linear activities are applicable for the application

Section B is to be completed and attachments order in the following way

- All significantly different environments identified for Alternative 1 is to be completed and attached in a chronological order; then
- All significantly different environments identified for Alternative 2 is to be completed and attached chronological order, etc.

Section B - Section of Route | | (complete only when appropriate for above)

Section B – Location/route Alternative No. | | (complete only when appropriate for above)

1. PROPERTY DESCRIPTION

Property description: (Including Physical Address and Farm name, portion etc.)	**Portion 28 of the farm Groenfontein 395 IR**

2. ACTIVITY POSITION- PREFERRED ALTERNATIVE

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 decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
	-26.540886°	**28.509286°**

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity	°	°
• Middle point of the activity	°	°
• End point of the activity	°	°

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached

The 21 digit Surveyor General code of each cadastral land parcel

Portion 28 of the farm Groenfontein 395 IR

PROPOSAL	T	O	I	R	0	0	0	0	0	0	0	0	0	3	9	5	0	0	0	2	8
ALT. 1																					
ALT. 2																					
etc.																					

3. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

4. LOCATION IN LANDSCAPE

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

Ridgeline	Plateau	**Side slope of hill/ridge**	Valley	Plain	Undulating plain/low hills	River front

The site is located on the side slope of a small koppie. The area proposed for the mast is relatively flat A tributary of the Suikerbosrand River is situated to the north of the site and has formed a valley.

Lesedi is located between 1440m and 1880m above sea level. The entire Lesedi Municipality drains towards the south and southwest, forming part of the Vaal river catchment area. The western and southwestern part of the Lesedi Municipality is characterized by a range of ridges and koppies which form part of the Suikerbosrand. The entire town of Heidelberg basically lies between these ridges and koppies. The most prominent ridges of the Suikerbosrand are situated to the west of Heidelberg and form part of the Suikerbosrand Nature Reserve. The koppies and ridges of the Suikerbosrand are characterized by steep and rugged topography, and are impressive topographical features in the study area. The eastern and northern parts of Lesedi have a flat topography with poorly drained areas in places, and are characterized by pans, valley areas and wetlands in these areas.

The Suikerbosrand River rises in the eastern portion of the catchment near Devon and Leandra, from where it flows in a south-westerly direction, before turning to the north-west upstream of its confluence with the Blesbokspruit. This portion of the Suikerbosrand catchment is dominated by grassland and dry land agriculture. It is largely devoid of hydrologically significant development, other than Balfour Dam (located in the Suikerbosrand River north of Balfour).

5. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

Shallow water table (less than 1.5m deep)	YES	**NO**
Dolomite, sinkhole or doline areas	YES	**NO**
Seasonally wet soils (often close to water bodies)	YES	**NO**
Unstable rocky slopes or steep slopes with loose soil	YES	**NO**
Dispersive soils (soils that dissolve in water)	YES	**NO**
Soils with high clay content (clay fraction more than 40%)	YES	**NO**
Any other unstable soil or geological feature	YES	**NO**
An area sensitive to erosion	**YES**	NO

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s) | YES | **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

c) are any caves located within a 300m radius of the site(s) | YES | **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

d) are any sinkholes located within a 300m radius of the site(s) | YES | **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

6. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)? | YES | **NO**

Please note: The Department may request specialist input/studies in respect of the above.

7. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % =	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	**Veld dominated by alien species % = 95**	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	**Bare soil % =5**

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site | YES | **NO** | UNCERTAIN

If YES, specify and explain:

The surrounding area (apart from the koppie) has largely been changed through agricultural and related land use practices. Originally, the adjacent landscape consists of open highveld grassland plains with rocky hills and outcrops. Agricultural lands and pastures dominate the entire area apart from the drainage lines, streams/ rivers and rocky outcrops.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	YES	NO	**UNCERTAIN**

If YES, specify and explain:

The study site, that comprises the proposed position of the Telecommunication mast and an extended area of 200 meters from the proposed position of the mast, lies on a pocket of vacant land considered an Ecological Support Area.

The natural areas in Lesedi have been substantially changed by human activities, notably formal agriculture (crop and livestock production) and urbanization, resulting in major habitat loss throughout the area. However, patches of relatively pristine natural areas still remain. This biodiversity is discussed under two sub-headings, namely manmade and natural habitats.

Highveld Grasslands Natural grasslands are mostly used for grazing and are by far the most prominent natural habitat in Lesedi. Fragmentation of natural grasslands is becoming a concern. Highveld grassland vegetation has a very high biodiversity value and the remaining pockets should be conserved as far as possible since very little of the vegetation.

The position of the sites is proposed to be situated on an area that is relatively disturbed.

Are there any special or sensitive habitats or other natural features present on the site?	YES	NO	**UNCERTAIN**

If YES, specify and explain:

The proposed position for the Telecommunication Mast falls a disturbed indigenous vegetation unit in an already much disturbed area which is not considered sensitive.

Was a specialist consulted to assist with completing this section	YES	**NO**

If yes complete specialist details

Name of the specialist:			
Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:		Cell:	

E-mail:		Fax:	
Are any further specialist studies recommended by the specialist?		YES	NO
If YES, specify:			
If YES, is such a report(s) attached?		YES	NO
If YES list the specialist reports attached below			

Signature of specialist: _____ Date:

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

8. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

Figure 14: 500m surrounding land use map

1. Vacant land	**2. River, stream, wetland**	3. Nature conservation area	4. Public open space	**5. Koppie or ridge**
6. Dam or reservoir	**7. Agriculture**	**8. Low density residential**	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	**14. Commercial & warehousing**	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

7	7	1, 2, 8	7	7,5
7	2	5, 1	5, 1	7, 5
7	8, 14,1		5, 1	7, 5
7	1, 14, 7	1	5, 1	7
7	7	1, 8, 7	1, 7	7

WEST EAST

= Site

SOUTH

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "A" and with an "N" respectively.

Have specialist reports been attached	YES	NO
If yes indicate the type of reports below		

9. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

In 2001 the population in Sedibeng District Municipality was recorded at 794 088 by StatsSA and the population has since increased by 122 396 in 2011. The total population in Sedibeng District Municipality is presently at 987 967. The population growth rate therefore from 2001-2018 was 1.43 percent per annum.

Year	Population	Source
2001	794 088	2001 Census
2011	916 484	2011 Census
2016	957 531	2016 CS
2017	973 810	2017 IHS/Quantek
2018	987 967	2018 (Quantek)

According to Quantek projections (2018), the current population of Lesedi is estimated at 116 992, which reflects a population increase of about 24 109 since 2010. Therefore, the total population of Lesedi accounts for only 10.9% of the total population of the district. Approximately 74.9% of the total population of Lesedi resides in the urban areas of Heidelberg/ Ratanda and Devon/Impumelelo, while the rest 25.1% is categorized as rural.

The racial composition of Lesedi is indicated in the table below and geographically most of the African population is concentrated in areas such as Impumelelo and Ratanda.

Population Group	Total Population 2011	Total Population 2016	Total Population 2017 (IHS)	Total Population 2018 (Quantek)
Black Africans	76 919	88 177	91 936	94 316

Whites	19 562	22 375	19 149	19 308
Coloureds	1 156	898	1 694	1 739
Indians or Asians	1 313	1 022	1508	1 559
Other	570			
Total	99 520	122 472	114 287	116 922

Population by Population Group: StatsSA, 2011, 2016, IHS 2017 and Quantek 2018

The largest population group is Black Africans. This group makes up 80.44% of the municipality's population. The second largest population group is Whites which accounts for 16.75% of the population while the Asian and Coloured population groups account for 1.3% combined, of the total population. This is according to the projections made by IHS.

The IsiZulu speaking population is the highest with 39 384 people, followed by the Sesotho speaking population which consists of 21 166 people, the Afrikaans speaking population is at third with a total of 18 788 people. The remainder of the home languages in numerical order (largest to smallest) of the amount of people per home language consist of English, IsiXhosa, Non-Applicable languages, IsiNdebele, Other, Sepedi, Setswana, Xitsonga, Sign Language, SiSwati and Tshivenda, with 20 182 people.

The population of Lesedi LM shows larger numbers in the younger age groups, this indicates rapid growth. 34% of the population is below the age of 20. This youthful population will make different demands on communications services than older people.

There are also a large number of people in the economically active age group (15-54 years) and this is important to keep the dependency ratios as low as possible. There are also a significantly higher number of people in the 65 years plus age groups which might point to a significant number of retired people settling in the area.

Decades of distorted development in the area has manifested in highly skewed distribution of income and wealth. The unemployment rate among the economically active sector of the community is approximately 25,9% and this is according to the Census 2011. However, the recent projections provided by Quantek, depicts a bleaker picture, thus projecting the unemployment rate to be at 43.6% in 2017.

The Gross Geographic Product (GGP) of Lesedi Local Municipality is largely dependent on manufacturing (38.8%), community services (29.4%) and financial services (18.6%), and collectively these three sectors constitute 86.8% of GGP of Lesedi Local Municipality.

The site falls in Ward 6 and this ward comprises of a part of Ratanda Ext 7, Tokolohong and a number of agricultural holdings. Uitlyk, Morea, Witkop, Langzeekoegat, Hartbeesfontien, De Hoek, Nooitgedacht, Lagerspoort, Steynskraal, Bothaskraal, Blinkpoort and Gelukspoort are some of the farms that form part of this ward. The Karan Beef Feedlot is also situated in this ward.

10. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-
(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) the construction of a bridge or similar structure exceeding 50m in length;
(c) any development or other activity which will change the character of a site-
(i) exceeding 5 000 m2 in extent; or
(ii) involving three or more existing erven or subdivisions thereof; or
(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) the re-zoning of a site exceeding 10 000 m2 in extent; or
(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site? If YES, explain:	YES	**NO**

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

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)? If yes, please attached the comments from SAHRA in the appropriate Appendix	YES	**NO**

11. PROPERTY DESCRIPTION – ALTERNATIVE 1

Property description: (Including Physical Address and Farm name, portion etc.)	**Portion 28 of the farm Groenfontein 395 IR**

12. 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 decimal degrees. The degrees should have at least six decimals to ensure adequate accuracy. The projection that must be used in all cases is the WGS84 spheroid in a national or local projection.

Alternative:	**Latitude (S):**	**Longitude (E):**
	-26.5408146°	**28.509750°**

In the case of linear activities:

Alternative:	**Latitude (S):**	**Longitude (E):**
• Starting point of the activity	°	°
• Middle point of the activity	°	°
• End point of the activity	°	°

For route alternatives that are longer than 500m, please provide co-ordinates taken every 250 meters along the route and attached in the appropriate Appendix

Addendum of route alternatives attached ☐

The 21 digit Surveyor General code of each cadastral land parcel

Portion 28 of the farm Groenfontein 395 IR

PROPOSAL																					
ALT. 1	T	O	I	R	0	0	0	0	0	0	0	0	0	3	9	5	0	0	0	2	8
ALT. 2																					
etc.																					

13. GRADIENT OF THE SITE

Indicate the general gradient of the site.

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

14. LOCATION IN LANDSCAPE

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

Ridgeline	**Plateau**	Side slope of hill/ridge	Valley	Plain	Undulating plain/low hills	River front

The site is located on the plateau of a small koppie. The area proposed for the mast is relatively flat but the access road thereto falls on a steep are of the koppie. A tributary of the Suikerbosrand River is situated to the north of the site and has formed a valley.

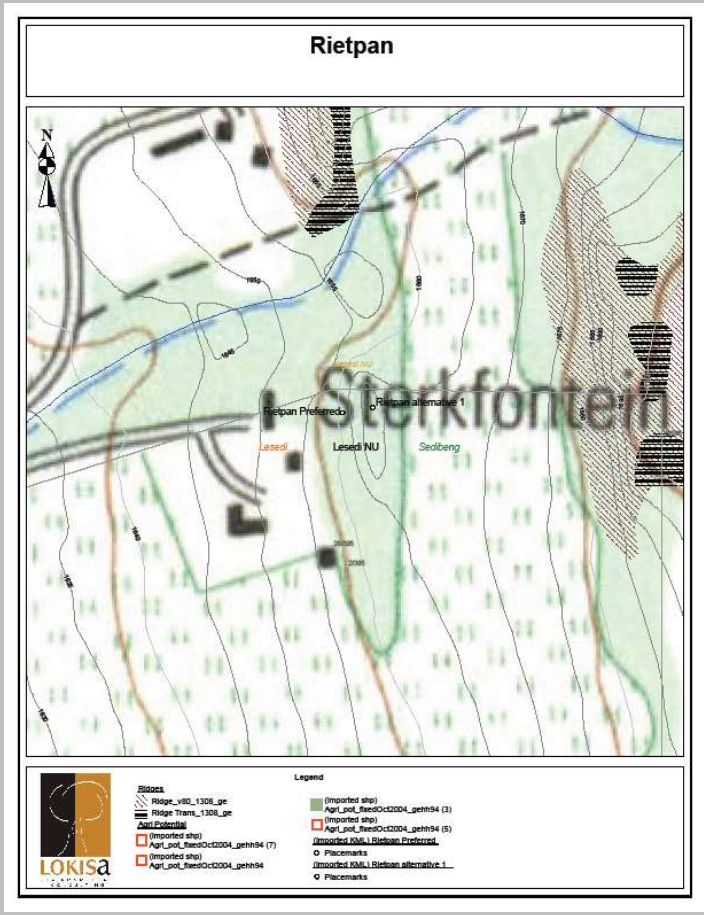


Figure 15- Alternative site in relation to koppie

15. GROUNDWATER, SOIL AND GEOLOGICAL STABILITY OF THE SITE

a) Is the site located on any of the following?

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

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

(Information in respect of the above will often be available at the planning sections of local authorities. Where it exists, the 1:50 000 scale Regional Geotechnical Maps prepared by Geological Survey may also be used).

b) are any caves located on the site(s) YES **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

c) are any caves located within a 300m radius of the site(s) YES **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

d) are any sinkholes located within a 300m radius of the site(s) YES **NO**

If yes to above provide location details in terms of latitude and longitude and indicate location on site or route map(s)

Latitude (S):	**Longitude (E):**
°	°

If any of the answers to the above are "YES" or "unsure", specialist input may be requested by the Department

16. AGRICULTURE

Does the site have high potential agriculture as contemplated in the Gauteng Agricultural Potential Atlas (GAPA 4)? YES **NO**

Please note: The Department may request specialist input/studies in respect of the above.

17. GROUNDCOVER

To be noted that the location of all identified rare or endangered species or other elements should be accurately indicated on the site plan(s).

Indicate the types of groundcover present on the site and include the estimated percentage found on site

Natural veld - good condition % = 100	Natural veld with scattered aliens % =	Natural veld with heavy alien infestation % =	Veld dominated by alien species % =	Landscaped (vegetation) % =
Sport field % =	Cultivated land % =	Paved surface (hard landscaping) % =	Building or other structure % =	Bare soil % =

Please note: The Department may request specialist input/studies depending on the nature of the groundcover and potential impact(s) of the proposed activity/ies.

Are there any rare or endangered flora or fauna species (including red list species) present on the site YES **NO** UNCERTAIN

If YES, specify and explain:

The surrounding area (apart from the koppie) has largely been impacted through agricultural and related land use practices. Originally, the adjacent landscape consists of open highveld grassland plains with rocky hills and outcrops. Agricultural lands and pastures dominate the entire area apart from the drainage lines, streams/ rivers and rocky outcrops.

Are there any rare or endangered flora or fauna species (including red list species) present within a 200m (if within urban area as defined in the Regulations) or within 600m (if outside the urban area as defined in the Regulations) radius of the site.	YES	NO	UNCERTAIN

If YES, specify and explain:

The study site, that comprises the proposed position of the Telecommunication mast and an extended area of 200 meters from the proposed position of the mast, lies on a pocket of vacant land considered an Ecological Support Area.

The natural areas in Lesedi have been substantially changed by human activities, notably formal agriculture (crop and livestock production) and urbanization, resulting in major habitat loss throughout the area. However, patches of relatively pristine natural areas still remain. This biodiversity is discussed under two sub-headings, namely manmade and natural habitats.

Highveld Grasslands Natural grasslands are mostly used for grazing and are by far the most prominent natural habitat in Lesedi. Fragmentation of natural grasslands is becoming a concern. Highveld grassland vegetation has a very high biodiversity value and the remaining pockets should be conserved as far as possible since very little of the vegetation remains in its natural state.

Are there any special or sensitive habitats or other natural features present on the site?	YES	NO	UNCERTAIN

If YES, specify and explain:

Was a specialist consulted to assist with completing this section	YES	NO

If yes complete specialist details

Name of the specialist:			
Qualification(s) of the specialist:			
Postal address:			
Postal code:			
Telephone:		Cell:	
E-mail:		Fax:	

	YES	NO
Are any further specialist studies recommended by the specialist?		
If YES, specify:		
If YES, is such a report(s) attached?		

If YES list the specialist reports attached below

Signature of specialist: _____ Date:

Please note; If more than one specialist was consulted to assist with the filling in of this section then this table must be appropriately duplicated

18. LAND USE CHARACTER OF SURROUNDING AREA

Using the associated number of the relevant current land use or prominent feature from the table below, fill in the position of these land-uses in the vacant blocks below which represent a 500m radius around the site

1. Vacant land	**2. River, stream, wetland**	3. Nature conservation area	4. Public open space	**5. Koppie or ridge**
6. Dam or reservoir	**7. Agriculture**	**8. Low density residential**	9. Medium to high density residential	10. Informal residential
11. Old age home	12. Retail	13. Offices	**14. Commercial & warehousing**	15. Light industrial
16. Heavy industrial[AN]	17. Hospitality facility	18. Church	19. Education facilities	20. Sport facilities
21. Golf course/polo fields	22. Airport[N]	23. Train station or shunting yard[N]	24. Railway line[N]	25. Major road (4 lanes or more)[N]
26. Sewage treatment plant[A]	27. Landfill or waste treatment site[A]	28. Historical building	29. Graveyard	30. Archeological site
31. Open cast mine	32. Underground mine	33.Spoil heap or slimes dam[A]	34. Small Holdings	
Other land uses (describe):				

NOTE: Each block represents an area of 250m X 250m, if your proposed development is larger than this please use the appropriate number and orientation of hashed blocks

NORTH

7	7	1, 2, 8	7	7,5
7	2	5, 1	5, 1	7, 5
7	8, 14,1		5, 1	7, 5
7	1, 14, 7	1	5, 1	7
7	7	1, 8, 7	1, 7	7

WEST EAST

SOUTH

= Site

Note: More than one (1) Land-use may be indicated in a block

Please note: The Department may request specialist input/studies depending on the nature of the land use character of the area and potential impact(s) of the proposed activity/ies. Specialist reports that look at health & air quality and noise impacts may be required for any feature above and in particular those features marked with an "[A]" and with an "[N]" respectively.

Have specialist reports been attached	YES	**NO**
If yes indicate the type of reports below		

19. SOCIO-ECONOMIC CONTEXT

Describe the existing social and economic characteristics of the area and the community condition as baseline information to assess the potential social, economic and community impacts.

The site falls in Ward 6 and this ward comprises of a part of Ratanda Ext 7, Tokolohong and a number of agricultural holdings. Uitlyk, Morea, Witkop, Langzeekoegat, Hartbeesfontien, De Hoek, Nooitgedacht, Lagerspoort, Steynskraal, Bothaskraal, Blinkpoort and Gelukspoort are some of the farms that form part of this ward. The Karan Beef Feedlot is also situated in this ward.

20. CULTURAL/HISTORICAL FEATURES

Please be advised that if section 38 of the National Heritage Resources Act 25 of 1999 is applicable to your proposal or alternatives, then you are requested to furnish this Department with written comment from the South African Heritage Resource Agency (SAHRA) – Attach comment in appropriate annexure

38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as-
(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
(b) the construction of a bridge or similar structure exceeding 50m in length;
(c) any development or other activity which will change the character of a site-
(i) exceeding 5 000 m2 in extent; or
(ii) involving three or more existing erven or subdivisions thereof; or
(iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
(iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
(d) the re-zoning of a site exceeding 10 000 m2 in extent; or
(e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Are there any signs of culturally (aesthetic, social, spiritual, environmental) or historically significant elements, as defined in section 2 of the National Heritage Resources Act, 1999, (Act No. 25 of 1999), including archaeological or palaeontological sites, on or close (within 20m) to the site? If YES, explain:	YES	**NO**

If uncertain, the Department may request that specialist input be provided to establish whether there is such a feature(s) present on or close to the site.

Briefly explain the findings of the specialist if one was already appointed:

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)? If yes, please attached the comments from SAHRA in the appropriate Appendix	YES	**NO**

SECTION C: PUBLIC PARTICIPATION (SECTION 41)

1. THE ENVIRONMENTAL ASSESSMENT PRACTITIONER MUST CONDUCT PUBLIC PARTICIPATION PROCESS IN ACCORDANCE WITH THE REQUIREMENT OF THE EIA REGULATIONS, 2014.

2. LOCAL AUTHORITY PARTICIPATION

Local 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. The planning and the environmental sections of the local authority must be informed of the application at least thirty (30) calendar days before the submission of the application to the competent authority.

Was the draft report submitted to the local authority for comment?	**YES**	NO
If yes, has any comments been received from the local authority?	YES	**NO**

If "YES", briefly describe the comment below (also attach any correspondence to and from the local authority to this application):

If "NO" briefly explain why no comments have been received or why the report was not submitted if that is the case.

Comments from the Lesedi Local Municipality are awaited.

3. CONSULTATION WITH OTHER STAKEHOLDERS

Any stakeholder that has a direct interest in the activity, site or property, such as servitude holders and service providers, should be informed of the application at least **thirty (30) calendar days** before the submission of the application and be provided with the opportunity to comment.

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):

Issue	Name	Date
Requires SAHRIS ref number	**SAHRA**	

If "NO" briefly explain why no comments have been received

4. GENERAL PUBLIC PARTICIPATION REQUIREMENTS

The Environmental Assessment Practitioner must ensure that the public participation process 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 and ratepayers associations. Please note that public concerns that emerge at a later stage that should have been addressed may cause the competent authority to withdraw any authorisation it may have issued if it becomes apparent that the public participation process was flawed.

The EAP must record all comments and respond to each comment of the public / interested and affected party before the application report is submitted. The comments and responses must be captured in a Comments and Responses Report as prescribed in the regulations and be attached to this application.

5. APPENDICES FOR PUBLIC PARTICIPATION

All public participation information is to be attached in the appropriate Appendix. The information in this Appendix is to be ordered as detailed below

Appendix 1 – Proof of site notice

Appendix 2 – Written notices issued as required in terms of the regulations

Appendix 3 – Proof of newspaper advertisements

Appendix 4 –Communications to and from interested and affected parties

Appendix 5 – Minutes of any public and/or stakeholder meetings

Appendix 6 - Comments and Responses Report

Appendix 7 –Comments from I&APs on Basic Assessment (BA) Report

Appendix 8 –Comments from I&APs on amendments to the BA Report

Appendix 9 – Copy of the register of I&APs

Public Participation was conducted according to the following steps:

- **Notice boards were placed on site on 23 May 2019 ;**
- **Notices were hand delivered to adjacent property owners;**
- **Registered letters were sent to adjacent land owners on 23 May 2019;**
- **The Environmental Management Division of the Lesedi Local Municipality was notified of the proposed development on 23 May 2019;**
- **The Ward Councillor was notified of the proposed development on 23 May 2019;**
- **An advert was placed in the Beeld on 23 May 2019.**

Please Refer to Appendix E: Public Participation, for the proof of the Public Participation undertaken.

SECTION D: RESOURCE USE AND PROCESS DETAILS

This section has been completed for both alternatives as the resource use and process details are the same.

Note: Section D is to be completed for the proposal and alternative(s) (if necessary)

Instructions for completion of Section D for alternatives

1) For each alternative under investigation, where such alternatives will have different resource and process details (e.g. technology alternative), the entire Section D needs to be completed
4) Each alterative needs to be clearly indicated in the box below
5) Attach the above documents in a chronological order

Section D has been duplicated for alternatives **0** times (complete only when appropriate)

Section D Alternative No. **Proposal and Alternative** (complete only when appropriate for above)

1. WASTE, EFFLUENT, AND EMISSION MANAGEMENT

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? **100 m^3**

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

The following policy on waste management is to be followed:

- **Provision will be made for adequate containers so as to handle all the garbage and litter generated on site;**
- **The contractor is responsible for any damage caused by any garbage and/or toxic material. Waste will be regularly removed to a licensed dumping site;**
- **No dangerous or toxic materials may be dumped at a site, which is not licensed for dangerous or toxic materials. If this is the case, provision will be made for the safe storage and subsequent collection and removal to a properly licensed site.**

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

Construction waste will be used for fill as far as possible. Any excess material will be removed to a landfill site.

Will the activity produce solid waste during its operational phase? YES / **NO**

If yes, what estimated quantity will be produced per month? `m^3

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

No solid waste will be generated during the operational phase. Maintenance of the structure will take place yearly but waste generated will be removed from site by the Contractor and disposed of at a licensed facility.

Has the municipality or relevant service provider confirmed that sufficient air space exists for treating/disposing of the solid waste to be generated by this activity? YES / **NO**

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

N/A

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

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

Re-use at the source

Liquid effluent (other than domestic sewage)

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?	m^3	
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the liquid effluent to be generated by this activity(ies)?	YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	**NO**
If yes, what estimated quantity will be produced per month?	m^3	

If yes describe the nature of the effluent and how it will be disposed.

Note that if effluent is to be treated or disposed on site the applicant should consult with the competent authority 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:

Liquid effluent (domestic sewage)

Will the activity produce domestic effluent that will be disposed of in a municipal sewage system?	YES	**NO**
If yes, what estimated quantity will be produced per month?		
If yes, has the municipality confirmed that sufficient capacity exist for treating / disposing of the domestic effluent to be generated by this activity(ies)?	YES	NO

Will the activity produce any effluent that will be treated and/or disposed of on site?	YES	**NO**
If yes describe how it will be treated and disposed off.		

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:

Emissions during construction will mostly be in the form of dust and smoke

2. WATER USE

Indicate the source(s) of water that will be used for the activity

municipal	Directly from 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:	liters

If Yes, please attach proof of assurance of water supply, e.g. yield of borehole, in the appropriate Appendix

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

If yes, list the permits required

If yes, have you applied for the water use permit(s)?	YES	NO
If yes, have you received approval(s)? (attached in appropriate appendix)	YES	NO

3. POWER SUPPLY

Please indicate the source of power supply eg. Municipality / Eskom / Renewable energy source

Municipal

If power supply is not available, where will power be sourced from?

4. ENERGY EFFICIENCY

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

Vodacom is conducting ongoing research to ensure that all cellular equipment within the network operate at optimal energy efficiently.

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

Vodacom has conducted testing on equipment with solar panels and wind turbines. The research on alternative power supply is ongoing but has proven to be problematic in the past. This is due to the site and CAA light requiring constant, uninterrupted power. This is of course not possible with the two aforementioned alternative power sources.

SECTION E: 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 as well as the impacts of not implementing the activity (Section 24(4)(b)(i).

1. ISSUES RAISED BY INTERESTED AND AFFECTED PARTIES

Summarise the issues raised by interested and affected parties.

Issue	Name	Date
Public Participation		
Not affected	Sasol Gas	28 May 2019
Transnet Pipelines are not affected.	Thami Hadebe Transtel	24 May 2019
Provide relevant Case ID on SAHRIS for processing	Annlin Matabane SAHRA	1 July 2019

Summary of response from the practitioner to the issues raised by the interested and affected parties (including the manner in which the public comments are incorporated or why they were not included)
(A full response must be provided in the Comments and Response Report that must be attached to this report):

Response to the comments received.

I&AP	Issue	Response
SAHRA	Provide relevant Case ID on SAHRIS for processing	Draft BAR uploaded and confirmations sent to Annlin Matabane.

2. IMPACTS THAT MAY RESULT FROM THE CONSTRUCTION AND OPERATIONAL PHASE

Briefly describe the methodology utilised in the rating of significance of impacts

Table 2: Methodology

Rating	Definition of Rating	Score
A. Extent – *the area in which the impact will be expected*		
None		**0**
Local	**Confined to project or study area or part thereof (eg. site)**	**1**
Regional	The region, which may be defined in various ways, eg. Cadastral, catchment, **topographic**	**2**
(Inter) national	**Nationally or beyond**	**3**
B. Intensity – *the magnitude or size of the impact*		
None		**0**
Low	**Natural and/or social functions and processes are negligibly altered**	**1**
Medium	**Natural and/or social functions and processes continue albeit in a modified way**	**2**
High	**Natural and/or social functions or processes are severely altered**	**3**
C. Duration – *the time frame for which the impact will be experienced*		
None		**0**
Short term	**Up to 2 years**	**1**

Medium term	**2 – 15 years**	**2**
Long Term	**More than 15 years**	**3**

The combined score of these three criteria corresponds to a Consequence Rating, as set out in Table below:

Table 3: Method used to determine the consequence score

Combined score (A+B+C)	0 - 2	3 - 4	5	6	7	8-9
Consequence Rating	Not **significant**	**Very low**	**Low**	**Medium**	**High**	**Very high**

Once the consequence is derived, the probability of the impact occurring is considered, using the probability classifications indicated in table below:

Table 4: Probability classification

Probability of impact – the likelihood of the impact occurring	
Improbable	**< 40% chance of occurring**
Possible	**40% - 70% chance of occurring**
Probable	**> 70% - 90% chance of occurring**
Definite	**> 90% chance of occurring**

The overall significance of impacts is determined by considering consequence and probability using the rating system indicated in table below:

Table 5: Impact Significance Rating

Significance Rating	Consequence		Probability
Insignificant	**Very low**	**&**	**Improbable**
	Very low	**&**	**Possible**
Very Low	**Very low**	**&**	**Probable**
	Very low	**&**	**Definite**
	Low	**&**	**Improbable**
	Low	**&**	**Possible**
Low	**Low**	**&**	**Probable**
	Low	**&**	**Definite**
	Medium	**&**	**Improbable**
	Medium	**&**	**Possible**
Medium	**Medium**	**&**	**Probable**
	Medium	**&**	**Definite**
	High	**&**	**Improbable**
	High	**&**	**Possible**
High	**High**	**&**	**Probable**
	High	**&**	**Definite**
	Very high	**&**	**Improbable**
	Very high	**&**	**Possible**
Very High	**Very high**	**&**	**Probable**
	Very high	**&**	**Definite**

In conclusion the impacts are also considered in terms of their status (positive or negative impact) and the confidence in the ascribed impact significance rating. The prescribed system for considering impacts status and confidence (in assessment) is indicated in table below.

Table 6: Impact status and confidence classification

Status of Impact	
Indication of where the impact is adverse (negative) or beneficial (positive)	**+ ve (positive – a 'benefit')**
	- ve (negative – a 'cost')
	Neutral
Confidence of assessment	
The degree of confidence in predictions based on	**Low**

available information, EAP's judgement and/or specialist knowledge	**Medium** **High**

The impact significance rating should be considered by GDARD in their decision-making process based on the implications of ratings ascribed below:

- Insignificant: the potential impact is negligible and will not have an influence on the decision regarding the proposed activity / development;
- Very low: the potential impact should not have any meaningful influence on the decision regarding the proposed activity / development;
- Low: the potential impact may not have any meaningful influence on the decision regarding the proposed activity / development;
- Medium: the potential impact should influence the decision regarding the proposed activity / development;
- High: the potential impact will affect the decision regarding the proposed activity / development;
- Very high: The proposed activity should only be approved under special circumstances.

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.

Potential impacts for the construction and operational phase

Proposal

Table 7: Potential Impacts for the construction and operational phase - Proposal

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
CONSTRUCTION PHASE								
BIOPHYSICAL ENVIRONMENT								
1. ISSUE: AIR QUALITY								
1.1 Dust/Air pollution: The generation of fugitive dust associated with construction activities & earthworks.	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
2. ISSUE VISUAL IMPACTS								
2.1 **Visual Intrusion and Light Pollution:** Lights from the contractor's camp and construction site could be visually intrusive.	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
3. ISSUE GEOLOGY AND SOILS								
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	High
3.2 Soil pollution	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	High
3.3 Disturbance of surface geology for development foundations	**Local (1)**	**Medium (2)**	**Short term (1)**	**Very Low (4)**	**Probable**	**Very Low & Probable = Very Low**	**-ve**	High
4. ISSUE FAUNA AND FLORA								
4.1 Degradation,	**Local (1)**	**Medium**	**Short**	**Very Low (4)**	**Probable**	**Very Low**	**-ve**	**High**

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
destruction of habitats/ ecosystem		(2)	term (1)			& Definite = Very Low		
4.2 Impacts on fauna and flora	Local (1)	High (3)	Short term (1)	Low(5)	Definite	Low & Definite = Low	-ve	High
5. ISSUE HYDROLOGY								
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	Regional (2)	High (3)	Short term (1)	Medium (6)	Probable	Medium & Probable = Medium	-ve	High
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
6. ISSUE AESTHETICS, SITE CHARACTER AND SENSE OF PLACE								
6.1 Noise/ vibration	Local (1)	Low (1)	Short term (1)	Very Low (3)	Improbable	Very Low & Improbable = Insignificant	-ve	High
6.2 Impact on the privacy of adjacent land owners	Local (1)	Low (1)	Short term (1)	Very Low (3)	Improbable	Very Low & Improbable = Insignificant	-ve	High
7. ISSUE SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
7.1 Safety and Security	Local (1)	Low (1)	Short term (1)	Very Low (3)	Improbable	Very Low & Improbable = Insignificant	-ve	High
7.2 Job opportunities	Regional (2)	High (3)	Short term (1)	Medium (6)	Definite	Medium & Definite = Medium	+ ve	Medium
7.3 Hygiene	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	High
8. ISSUE HISTORICAL ENVIRONMENT								
8.1 Destruction of cultural / heritage sites	None (0)	None (0)	None (0)	Not significant (0)	Improbable	Not significant & Improbable =Insignificant	-ve	Medium
INFRASTRUCTURE, SERVICES AND WASTE								
9. ISSUE: INFRASTRUCTURE AND WASTE								
9.1 Waste	Local (1)	Medium (2)	Short term (1)	Very Low (4)	Definite	Very Low & Definite = Very Low	-ve	High
OPERATIONAL PHASE								

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
1. ISSUE: FAUNA AND FLORA								
1.1 Alien invasion	**Local (1)**	**Medium (2)**	**Long term (3)**	**Medium (6)**	**Probable**	**Medium & Probable = Medium**	**-ve**	**Medium**
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
2. ISSUE: SOCIAL WELL BEING AND QUALITY OF THE ENVIRONMENT								
2.1 Safety & Security	**Local (1)**	**Low (1)**	**Long term (3)**	**Low (5)**	**Probable**	**Low & Probable = Low**	**+ve**	**Medium**
3 ISSUE: HEALTH								
3.1. Impact of Electromagnetic radiation on human health	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbabl e = Insignific ant**	**-ve**	**High**
4 ISSUE: VISUAL IMPACT								
4.1 Visual impact – 45m mast on side of koppie	**Local (1)**	**Medium (2)**	**Long term (3)**	**Medium (6)**	**Definite**	**Medium & Definite =Medium**	**-ve**	**Medium**
5. ISSUE: HYDROLOGY								
5.1 Erosion of adjacent areas	**Regional (2)**	**Medium (2)**	**Long term (3)**	**High (7)**	**Probable**	**High & Probable = High**	**-ve**	**Medium**
6. ISSUE: TRAFFIC (AVIATION IMPACT)								
6.1 Structure might impact on air traffic if it does not adhere to CAA Requirements (i.e. If it does not have day night markings, if it is not painted in the recommended colours)	**Regional (2)**	**Medium (2)**	**Long term (3)**	**High (7)**	**Probable**	**High & Probable = High**	**-ve**	**Medium**
INFRASTRUCTURE, SERVICES AND WASTE								
7. ISSUE: INFRASTRUCTURE AND WASTE								
7.1 Property values	**Local (1)**	**Medium (2)**	**Long term (3)**	**Medium (6)**	**Probable**	**Medium & Probable = Medium**	**-ve**	**Medium**

Potential Impacts for the construction and operational phase

Alternative 1

Table 8: Potential Impacts for the construction and operational phase – Alternative 1

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
CONSTRUCTION PHASE								
BIOPHYSICAL ENVIRONMENT								
1. ISSUE: AIR QUALITY								
1.1 Dust/Air pollution: The generation of fugitive dust associated with construction activities & earthworks.	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbabl e = Insignific ant**	**-ve**	**High**

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
2. ISSUE VISUAL IMPACTS								
2.1 **Visual Intrusion and Light Pollution:** Lights from the contractor's camp and construction site could be visually intrusive.	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
3. ISSUE GEOLOGY AND SOILS								
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	**Local (1)**	**High (3)**	**Short term (1)**	**Low(5)**	**Definite**	**Low & Definite = Low**	**-ve**	**High**
3.2 Soil pollution	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	High
3.3 Disturbance of surface geology for development foundations	**Local (1)**	**High (3)**	**Short term (1)**	**Low(5)**	**Definite**	**Low & Definite = Low**	**-ve**	**High**
4. ISSUE FAUNA AND FLORA								
4.1 Degradation, destruction of habitats/ ecosystem	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**High**
4.2 Impacts on fauna and flora	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**High**
5. ISSUE HYDROLOGY								
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**High**
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
6. ISSUE AESTHETICS, SITE CHARACTER AND SENSE OF PLACE								
6.1 Noise/ vibration	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
6.2 Impact on the privacy of adjacent land owners	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
7. ISSUE SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT								
7.1 Safety and Security	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
7.2 Job opportunities	**Regional (2)**	**High (3)**	**Short term (1)**	**Medium (6)**	**Definite**	**Medium & Definite = Medium**	**+ ve**	**Medium**

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
7.3 Hygiene	**Local (1)**	**Medium (2)**	**Short term (1)**	**Very Low (4)**	**Definite**	**Very Low & Definite = Very Low**	**-ve**	**High**
8. ISSUE HISTORICAL ENVIRONMENT								
8.1 Destruction of cultural / heritage sites	**None (0)**	**None (0)**	**None (0)**	**Not significant (0)**	**Improbable**	**Not significant & Improbable =Insignificant**	**-ve**	**Medium**
INFRASTRUCTURE, SERVICES AND WASTE								
9. ISSUE: INFRASTRUCTURE AND WASTE								
9.1 Waste	**Local (1)**	**Medium (2)**	**Short term (1)**	**Very Low (4)**	**Definite**	**Very Low & Definite = Very Low**	**-ve**	**High**
OPERATIONAL PHASE								
1. ISSUE: FAUNA AND FLORA								
1.1 Alien invasion	**Local (1)**	**Medium (2)**	**Long term (3)**	**Medium (6)**	**Probable**	**Medium & Probable = Medium**	**-ve**	**Medium**
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT								
2. ISSUE: SOCIAL WELL BEING AND QUALITY OF THE ENVIRONMENT								
2.1 Safety & Security	**Local (1)**	**Low (1)**	**Long term (3)**	**Low (5)**	**Probable**	**Low & Probable = Low**	**+ve**	**Medium**
3 ISSUE: HEALTH								
3.1. Impact of Electromagnetic radiation on human health	**Local (1)**	**Low (1)**	**Short term (1)**	**Very Low (3)**	**Improbable**	**Very Low & Improbable = Insignificant**	**-ve**	**High**
4 ISSUE: VISUAL IMPACT								
4.1 Visual impact – 45m mast on top of the koppie	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**High**
5. ISSUE: HYDROLOGY								
5.1 Erosion of adjacent areas	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**High**
6. ISSUE: TRAFFIC (AVIATION IMPACT)								
6.1 Structure might impact on air traffic if it does not adhere to CAA Requirements (i.e. If it does not have day night markings, if it is not painted in the recommended colours)	**Regional (2)**	**Medium (2)**	**Long term (3)**	**High (7)**	**Probable**	**High & Probable = High**	**-ve**	**Medium**
INFRASTRUCTURE, SERVICES AND WASTE								
7. ISSUE: INFRASTRUCTURE AND WASTE								
7.1 Property values	**Local (1)**	**Medium (2)**	**Long term (3)**	**Medium (6)**	**Probable**	**Medium & Probable = Medium**	**-ve**	**Medium**

IMPACT ASSESSMENT FOR THE NO-GO ALTERNATIVE – CONSTRUTION AND OPERATIONAL PHASES

NO-GO ALTERNATIVE

Table 8: Impact Assessment - No-Go Alternative

Potential Impact	Extent A	Intensity B	Duration C	Consequence A+B+C	Probability	Impact Signifi-cance	Status	Confidence
CONSTRUTION PHASE								
1. IMPACTS ON THE ENVIRONMENT								
1.1 Impact on the environment	**None**	**None**	**None**	**Not significant (0)**	**Improbable**	**Not significant**	**+ve**	**Medium**
OPERATIONAL PHASE								
1. ISSUE: INFRASTRUCTURE AND WASTE								
1.1 Continued damage of the existing water tower	**Local (1)**	**High (3)**	**Long term (3)**	**High (7)**	**Definite**	**High & Definite = High**	**-ve**	**Medium**

Proposal

Table 9: Significance Rating for the construction and operational phase – Proposal

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
CONSTRUCTION PHASE				
1. ISSUE: AIR QUALITY				
1.1 Dust/Air pollution - The generation of fugitive dust associated with construction activities & earthworks.	Insignificant	• Excavating, handling or transporting erodible materials in high wind or when dust plumes are visible shall be avoided. • All materials transported to site must be transported in such a manner that they do not fly or fall off the vehicle. This may necessitate covering or wetting materials that have the potential to fly off the construction vehicles. • No burning of refuse or vegetation is permitted. • Should construction in areas that have been stripped not commence within a short period of time the exposed areas shall be re-vegetated or stabilised.	Insignificant	Negative impact to the ambient air quality of the area.
2. ISSUE VISUAL IMPACTS				
2.1 Visual Intrusion and Light Pollution –. Lights from the contractor's camp and construction site could be visually intrusive.	Insignificant	• The construction camp must be located as far from residential properties as possible. • Light pollution should be minimised. • Construction / management activities must be limited to the daylight hours between 7:00am and 5:30pm weekdays; 7:00am and 1:30pm on Saturdays. • Lighting on site is to be sufficient for safety and security purposes, but shall not be intrusive to neighbouring residents, disturb wildlife, or interfere with road traffic. • Should overtime/night work be authorized, the Contractor shall be responsible to ensure that lighting does not cause undue disturbance to neighbouring residents. • In this situation low flux and frequency lighting shall be utilised. • The site area is to be physically screened off with a shade cloth fence (preferably dark green or grey as it will blend in well with the surrounding environment) at least 1.8m in height.	Insignificant	Negative impact to the visual quality of the area including light pollution.
3. ISSUE GEOLOGY AND SOILS				
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Insignificant	• Appropriate erosion and storm water management structures must be installed around the construction site.	Insignificant	Degradation or impairment of soil quality.

		• All construction vehicles, plant, machinery and equipment must be properly maintained to prevent leaks. • Plant and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site or campsite area. • Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Ensure appropriate handling of hazardous substances. • Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes. • Fuels and chemicals must be stored in adequate storage facilities that are secure, enclosed and bunded. • Once earthworks are complete, disturbed areas are to be stabilised with an appropriate approved method. • Disturbed surfaces to be rehabilitated with locally indigenous grass species. No open trenches to be left. • No mounds of soils created during construction to be left. Soils around erected poles to be leveled and sculptured to the original contours of the surrounding soils.		
3.2 Soil pollution	Insignificant	• Ensure correct position of construction caps, equipment yards, refueling depots, concrete batching plant etc. to avoid areas susceptible to soil and water pollution. • Ensure appropriate handling of hazardous substances • Remediate polluted soil. • All construction vehicles, plant, machinery and equipment must be properly maintained to prevent leaks. • Plant and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site or campsite area. • Drip trays are to be utilised during daily greasing and re-fueling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes. • Fuels and chemicals must be stored in adequate storage facilities that are secure, enclosed and bunded.	Insignificant	Spilled oil prevents water absorption by soil
3.3 Disturbance of surface geology for development foundations	Very Low	• Site development to be limited to footprint area. • Al excavations and foundations must be inspected regularly.	Very Low	Negative impact on the geology of the area.
4. ISSUE FAUNA AND FLORA				
4.1 Degradation, destruction of habitats	Very Low	• Adherence to the GDARD Guidelines on ridges, February 2019: • Prior to construction, fences should be erected in such a manner to prevent	Very Low	Loss of biodiversity.

		access and damage to any sensitive areas identified in a sensitivity mapping exercise. • Site clearing is to be limited only to the area necessary for carrying out the specified works and the destruction of vegetation should be minimised. • No littering by construction workers is permitted. Any litter will be collected and removed off-site to a registered waste site. • Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention. • No burning of stockpiled vegetation is permitted. • The alien plants on site should be removed during construction. • Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas. (Particular attention must be paid to imported material). • Alien vegetation re-growth must be controlled throughout the entire site during the construction period.		
4.2 Impacts on fauna and flora	Low	• All construction activities must be confined to the footprint area of the proposed development in order to prevent construction workers inadvertently destroying the red listed plants in the near vicinity. • The contractor must ensure that no fauna species are disturbed, trapped, hunted, or killed during the construction phase. • Disturbance to birds, animals and reptiles and their habitats should be prevented at all times. • The illegal hunting or capture of wildlife will not be tolerated. Such matters will be handed over to the relevant authorities for prosecution. • The appropriate agency should implement an ongoing monitoring and eradication programme for all invasive and weedy plant species growing the service. • Access of persons not involved with the construction process or with maintenance of the water reservoir should be prohibited during the construction phase to prevent particles or substances harmful to sensitive plants being trampled into or otherwise introduced to the open space area.	Very Low	Loss of biodiversity
5. ISSUE HYDROLOGY				
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	Medium	• Erosion to be monitored at all times during the construction phase. Any erosion to be corrected immediately.	Low	Soil erosion, flooding and sedimentation of water bodies and loss of habitat.
SOCIO-ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT				
6. ISSUE AESTHETICS, SITE CHARACTER AND SENSE OF PLACE				
6.1 Noise/ vibration	Insignificant	• Noise levels shall be kept within acceptable limits, and construction crew must abide by National Noise Laws and local by-laws regarding noise. • No sound amplification equipment such as sirens, loud hailers or hooters are to be used on site except in emergencies and	Insignificant	An increase in the ambient noise levels of the area.

		no amplified music is permitted on site. • Construction / management activities involving use of the service vehicle, machinery, hammering etc., must be limited to the hours between 7:00am and 5:30pm weekdays; 7:00am and 1:30pm on Saturdays; no noisy activities may take place on Sundays or Public Holidays. • Activities that may disrupt neighbours (e.g. delivery trucks, excessively noisy activities etc.) must be preceded by notice being given to the affected neighbours at least 24 hours in advance. • Equipment that is fitted with noise reduction facilities (e.g. side flaps, silencers etc.) must be used as per operating instructions and maintained properly during site operations. • If work is to be undertaken outside normal working hours, permission must be obtained. Prior to commencement of such an activity the Contractor is to advise the potentially affected neighbouring residents. Notification could include letter-drops.		
6.2 Impact on the privacy of adjacent land owners	Insignificant	• The construction camp must be located as far from residential properties as possible. • No access to neighbouring holdings should be allowed. • Construction crew to respect adjacent landowners.	Insignificant	Nuisance to adjacent land owners
7. ISSUE SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT				
7.1 Safety and Security	Insignificant	• Signs should be erected on all entrance gates to the site camp indicating that no temporary jobs are available, thereby limiting opportunistic labourers and crime. • The site and crew are to be managed in strict accordance with the Occupational Health and Safety Act (Act No. 85 of 1993) and the National Building Regulations • All structures that are vulnerable to high winds must be secured (including toilets). • Potentially hazardous areas such as trenches are to be cordoned off and clearly marked at all times. • The Contractor is to ensure traffic safety at all times, and shall implement road safety precautions for this purpose when works are undertaken on or near public roads. • Necessary Personal Protective Equipment (PPE) and safety gear appropriate to the task being undertaken is to be provided to all site personnel (e.g. hard hats, safety boots, masks etc.). • All vehicles and equipment used on site must be operated by appropriately trained and / or licensed individuals in compliance with all safety measures as laid out in the Occupational Health and Safety Act (Act No. 85 of 1993) (OHSA). • An environmental awareness training programme for all staff members shall be put in place by the Contractor. Before commencing with any work, all staff members shall be appropriately briefed about the EMP and relevant occupational health and safety issues. • All construction workers shall be issued with ID badges and clearly identifiable uniforms. • Access to fuel and other equipment stores is to be strictly controlled. • Emergency procedures must be produced	Insignificant	Potential criminal activities such as theft might occur.

		and communicated to all the employees on site. This will ensure that accidents are responded to appropriately and the impacts thereof are minimised. This will also ensure that potential liabilities and damage to life and the environment are avoided. • Adequate emergency facilities must be provided for the treatment of any emergency on the site. • The nearest emergency service provider must be identified during all phases of the project as well as its capacity and the magnitude of accidents it will be able to handle. Emergency contact numbers are to be displayed conspicuously at prominent locations around the construction site and the construction crew camps at all times. • The Contractor must have a basic spill control kit available at each construction crew camp and around the construction site. The spill control kits must include absorptive material that can handle all forms of hydrocarbon as well as floating blankets / pillows that can be placed on water courses. • The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • Washing and toilet facilities shall be provided on site and in the Contractors camp. • Adequate numbers of chemical toilets must be maintained in the Contractors camp to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided. • The chemical toilets servicing the camp must be maintained in a good state, and any spills or overflows must be attended to immediately. • The chemical toilets must be emptied on a regular basis. • The Contractors site must be located on the high side of the site so any leakages or spillages will be contained on site.		
7.2 Job opportunities	Medium (Positive)	• Make use of local labour • Provide clear and realistic information regarding employment opportunities and other benefits for local communities in order to prevent unrealistic expectations. • Provide skills training for construction workers.	Medium (Positive)	A large influx of uncontrolled numbers of people coming to the site seeking employment opportunities. This might also pose a security risk.
7.3 Hygiene	Very Low	• The Contractor shall make available safe drinking water fit for human consumption at the site offices and all other working areas. • Washing and toilet facilities shall be provided on site and in the Contractors camp. • Adequate numbers of chemical toilets must be maintained in the Contractors camp to service the staff using this area. At least 1 toilet must be available per 20 workers using the camp. Toilet paper must be provided. • The chemical toilets servicing the camp must be maintained in a good state, and any spills or overflows must be attended to immediately. • The chemical toilets must be emptied on a	Very Low	

		regular basis. • The Contractors site must be located on the high side of the site so any leakages or spillages will be contained on site. • HIV AIDS awareness and education should be undertaken by all Contractor staff.		
8. ISSUE HISTORICAL ENVIRONMENT				
8.1 Destruction of cultural / heritage sites	Insignificant	• No sites of heritage significance were found on the property. • Ensure that construction staff members are aware that heritage resources could be unearthed and the scientific importance of such finds. • Ensure that heritage objects are not to be moved or destroyed without the necessary permits from the South African Heritage Resources Agency (SAHRA) in place.	Insignificant	Impairment of heritage resources
INFRASTRUCTURE, SERVICES AND WASTE				
9. ISSUE: INFRASTRUCTURE AND WASTE				
9.1 Waste	Very Low	• Proper waste bins to be provided. These to be emptied weekly and the waste to be to be removed to an official waste disposal site. • No burning of waste. • Waste will be collected and removed off-site to a registered waste site. • Dumping of builder's rubble and other waste in the areas earmarked for exclusion must be prevented, through fencing or other management measures. These areas must be properly managed throughout the lifespan of the project in terms of fire, eradication of exotics etc. to ensure continuous biodiversity.	Very Low	Waste that is not disposed of correctly mainly leads to the following: • Environmental degradation • Water pollution • Infestation by rodents and potential disease causing vectors
OPERATIONAL PHASE				
1. ISSUE: FAUNA AND FLORA				
1.1 Alien invasion	Medium	• Site to be kept neat and weed free • The appropriate agency should implement an ongoing monitoring and eradication programme for all invasive and weedy plant species growing within the servitude. • Rehabilitation of natural vegetation should proceed in accordance with a rehabilitation plan compiled by a specialist registered in terms of the Natural Scientific Professions Act, 2003 (Act No 27 of 2003) in the field of Ecological Science. • Any re-vegetation exercise should use species indigenous to South Africa. Plant species locally indigenous to the area are preferred.	Low	Loss of biodiversity.
SOCIO- ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT				
2. ISSUE: SOCIAL WELL-BEING AND QUALITY OF THE ENVIRONMENT				
2.1 Safety & Security	Low	• Site to be secured. • Regular check up on fencing	Very Low	Potential criminal activities such as theft.
3. ISSUE: HEALTH				
3.1. Impact of electromagnetic radiation on health	Insignificant	• Site to be inspected regularly • Routine maintenance • Regular measurement of levels.	Insignificant	Uncertain
4 ISSUE: VISUAL IMPACT				
4.1 Visual impact	Medium	• As far as possible, all transmission be colour-coded grey to match the colour of the mast.	Medium	Negative visual impact of the environment.
5. ISSUE: HYDROLOGY				
5.1 Erosion of adjacent areas	High	• Erosion and storm water from site to be checked regularly. • Should erosion take place, the storm water situation needs to be rectified.	Medium	Loss of habitat, Loss of topsoil water pollution.

6. ISSUE: TRAFFIC (AVIATION IMPACT)				
6.1 Structure might impact on air traffic if it does not have day night markings	High	• Mast to have markings.	Medium	Increased levels of traffic
INFRASTRUCTURE, SERVICES AND WASTE				
7. ISSUE: INFRASTRUCTURE AND WASTE				
7.1 Property values	Medium	• It is understood that there are existing towers located in and around the site, and this has not impacted the values of the properties to date. Also, since property valuation is a subjective matter and cannot be measured in objective manner it is recommended that the following recommendation is strictly adhered to as it will reduce the significance of the negative visual impact: • Adhere to the recommendations of the Visual Impact Study, that is, to keep the height of the mast at 20metres, in a grey colour and negotiate with the CA to have the colour of the antennae to be mounted on the mast to be grey as well.	Low	Uncertain

Significance Rating for the construction and operational phase

Alternative 1

The majority of the issues that have been mentioned in Table 9 also apply to Alternative1. The Potential Impacts that differ from are discussed below.

Table 10: Significance Rating for the construction and operational phase - Alternative 1

Potential impacts:	**Significance rating of impacts (positive or negative):**	**Proposed mitigation:**	**Significance rating of impacts after mitigation:**	**Risk of the impact** and **mitigation not being implemented**
CONSTRUCTION PHASE				
3. ISSUE GEOLOGY AND SOILS				
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Low	• Reduce the area affected by construction by opting for the Preferred Alternative. • Appropriate erosion and storm water management structures must be installed around the construction site. • All construction vehicles, plant, machinery and equipment must be properly maintained to prevent leaks. • Plant and vehicles are to be repaired immediately upon developing leaks. Drip trays shall be supplied for all repair work undertaken on machinery on site or campsite area. • Drip trays are to be utilised during daily greasing and re-fuelling of machinery and to catch incidental spills and pollutants. • Drip trays are to be inspected daily for leaks and effectiveness, and emptied when necessary. This is to be closely monitored during rain events to prevent overflow. • Ensure appropriate handling of hazardous substances. • Vehicles to be used during the construction phase are to be kept in good working condition and should not be the source of excessive fumes. • Fuels and chemicals must be stored in adequate storage facilities that are secure,	Insignificant	Degradation or impairment of soil quality.

		enclosed and bunded. • Once earthworks are complete, disturbed areas are to be stabilised with an appropriate approved method. • Disturbed surfaces to be rehabilitated with locally indigenous grass species. No open trenches to be left. • No mounds of soils created during construction to be left. Soils around erected poles to be leveled and sculptured to the original contours of the surrounding soils.		
3.3 Disturbance of surface geology for development foundations	Low	• Site development to be limited to footprint area. • Al excavations and foundations must be inspected regularly.	Very Low	Negative impact on the geology of the area.
4. ISSUE FAUNA AND FLORA				
4.1 Degradation, destruction of habitats	High	• Reduce the area affected by construction by opting for the Preferred Alternative. • Adherence to the GDARD Guidelines on ridges, February 2019: • Prior to construction, fences should be erected in such a manner to prevent access and damage to any sensitive areas identified in a sensitivity mapping exercise. • Site clearing is to be limited only to the area necessary for carrying out the specified works and the destruction of vegetation should be minimised. • No littering by construction workers is permitted. Any litter will be collected and removed off-site to a registered waste site. • Cleared indigenous vegetation can be stockpiled for possible reuse in later rehabilitation or landscaping, or as a brush pack for erosion prevention. • No burning of stockpiled vegetation is permitted. • The alien plants on site should be removed during construction. • Care must be taken to avoid the introduction of alien plant species to the site and surrounding areas. (Particular attention must be paid to imported material). • Alien vegetation re-growth must be controlled throughout the entire site during the construction period.	Medium	Loss of biodiversity.
4.2 Impacts on fauna and flora	High	• Reduce the area affected by construction by opting for the Preferred Alternative. • All construction activities must be confined to the footprint area of the proposed development in order to prevent construction workers inadvertently destroying the red listed plants in the near vicinity. • The contractor must ensure that no fauna species are disturbed, trapped, hunted, or killed during the construction phase. • Disturbance to birds, animals and reptiles and their habitats should be prevented at all times. • The illegal hunting or capture of wildlife will not be tolerated. Such matters will be handed over to the relevant authorities for prosecution. • The appropriate agency should implement an ongoing monitoring and eradication programme for all invasive and weedy plant species growing the	High	Loss of biodiversity

		service. • Access of persons not involved with the construction process or with maintenance of the water reservoir should be prohibited during the construction phase to prevent particles or substances harmful to sensitive plants being trampled into or otherwise introduced to the open space area.		
5. ISSUE HYDROLOGY				
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	High	• Erosion to be monitored at all times during the construction phase. Any erosion to be corrected immediately.	medium	Soil erosion, flooding and sedimentation of water bodies and loss of habitat.
OPERATIONAL PHASE				
SOCIO- ECONOMIC AND CULTURAL HISTORICAL ENVIRONMENT				
4 ISSUE: VISUAL IMPACT				
4.1 Visual impact	High	• Reduction of the height of the mast	High	Negative visual impact of the environment.
5. ISSUE: HYDROLOGY				
5.1 Erosion of adjacent areas	High	• Erosion and storm water from site to be checked regularly. • Should erosion take place, the storm water situation needs to be rectified.	Medium	Loss of habitat, Loss of topsoil water pollution.

No-Go

Table 11: Significance rating - No-Go Alternative

Potential impacts:	Significance rating of impacts (positive or negative):	Proposed mitigation:	Significance rating of impacts after mitigation:	Risk of the impact and mitigation not being implemented
CONSTRUCTION PHASE				
3. 1. ISSUE: IMPACTS ON THE ENVIRONMENT				
1.1 Impacts on the environment	Insignificant	• None	Insignificant	The no-go alternative will entail leaving the site in its present state and there will be no impact on the environment.
OPERATIONAL PHASE				
1.. ISSUE: INFRASTRUTURE AND WASTE				
1.1.Iinsufficient cellular coverage	High	• The need for the improvement of the service has been identified in the area .	Medium	Cellular reception in the area will remain as per current situation.
2.1 Visual impact	Insignificant	• None	Insignificant	The no-go alternative will entail leaving the site in its present state and there will be no visual impact.

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

None

Describe any gaps in knowledge or assumptions made in the assessment of the environment and the impacts associated with the proposed development.

No impact assessment can be completely certain of the exact nature and extent of the various impacts that would result from a given development activity. However, this assessment strives to limit any uncertainties by optimising the collection of base data, and by following a rigorous impact assessment methodology.

Assumptions and Limitations:

- **All information regarding the proposed project and related activities as provided by the Client are taken to be accurate.**
- **The site is relatively small and uniform in habitat and the two site visits are therefore considered to be sufficient for this project.**
- **Precise buffer zones, regulated zones etc. or exact GPS positions cannot be made using generalised corridors or kml files on Google Earth. However, the buffer zones drawn are accurate to within 2-3m.**
- **Standard and acceptable methodologies as required and used in South Africa were used.**
- **The latest data sets were used in terms of obtaining and establishing background information and desktop reviews for the project. The data sets were taken to be accurate, but were verified and refined during field investigations.**

4. IMPACTS THAT MAY RESULT FROM THE DECOMISSIONING AND CLOSURE PHASE

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 decommissioning and closure phase for the various alternatives of the proposed development. This must include an assessment of the significance of all impacts.

Decommissioning and closure phase

No decommissioning is envisaged but should it take place the impacts are described below (Proposal & Alternative).

Potential impacts	Significance rating of impacts (positive or negative)	Proposed mitigation	Significance rating of impacts after mitigation	Risk of impact and mitigation not being implemented
Waste (Rubble)	High	Rehabilitation	Medium	Pollution and environmental degradation due to poor methods of waste disposal.
Visual	High	Rehabilitation	Medium	Visual nuisance to the neighbouring land owners.
Dust	High	Rehabilitation	Medium	Negative impact to the ambient air quality
Noise	High	Rehabilitation	Medium	Nuisance to the neighbouring
Sense of place	High	Rehabilitation	Medium	Loss of sense of place

Alternative 1

Potential impacts	Significance rating of impacts (positive or negative)	Proposed mitigation	Significance rating of impacts after mitigation	Risk of impact and mitigation not being implemented
The impacts are similar to that of the proposal.				

List any specialist reports that were used to fill in the above tables. Such reports are to be attached in the appropriate Appendix.

None

Where applicable indicate the detailed financial provisions for rehabilitation, closure and ongoing post decommissioning management for the negative environmental impacts.

The cost for decommissioning a cellular structure is in the range of R1mil and this includes the rehabilitation of the affected area.

Post closure management includes 6 monthly monitoring of the regrowth of vegetation and erosion control for a period of 2 years.

5. CUMULATIVE IMPACTS

Describe potential impacts that, on their own may not be significant, but is significant when added to the impact of other activities or existing impacts in the environment. Substantiate response:

The following cumulative impacts were identified:

1. **Disturbance of the site might lead to alien plant infestation.**
2. **Visual impact of the mast. The proposed type of structure, the colour and the position must be compatible with the surrounding land uses.**
3. **There is a socio-economic need for an effective and efficient telecommunication network in the area for economic and safety purposes. Therefore the proposed project will accommodate the interests of the applicant, community and economy.**

6. ENVIRONMENTAL IMPACT STATEMENT

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

Proposal

As a necessary part of infrastructure and a business service, this development is bound to have a positive effect on the surrounding area in terms of communication, and it will provide a needed service to the immediate area.

From a purely biophysical perspective the area to be impacted on by the mast is relatively small and the site has already been disturbed, for the use of the site for agricultural and commercial purposes. The preferred position falls just outside a koppie area that is considered to be sensitive. The position for Alternative 1 falls in this sensitive area.

Besides the koppie, situated to the east of the site, there are no sensitive habitats such as water bodies present on site.

The biophysical impact of the development will be limited in a regional context, and will be more than offset by the social benefits. The proposed activity can therefore proceed from an environmental perspective.

The construction phase has the greatest impact on the environment even with mitigation. The negative impacts associated with the construction phase include:

- **Soil and Ground Water pollution**
- **Increased run off of water**
- **Visual Intrusion & Light Pollution**
- **Destruction of Flora & Fauna**
- **Noise Pollution**
- **Atmosphere pollution and odours resulting from dust and construction equipment**
- **Safety & Security on the site**
- **Spread of Alien Vegetation**

The construction phase will be associated with positive socio-economic impacts in terms of job creation. A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above. A key environmental imperative of the construction phase would be to prevent soil, air, water and noise pollution and erosion on the site.

The negative impacts relating to the operational phase include the following:

- **Due to the disturbance of the site alien plants will be able to establish and could**

become a problem by infesting neighbouring land.
- The visual impact ;

A number of mitigation measures to reduce or improve these impacts have been identified and are presented in the tables above.

The primary positive impacts relate to the improved communications network in the area.

The construction phase will be of short duration and operational phase will have limited environmental impacts if constructed according to the conditions outlined in this report and if managed according to the EMPr.

From a property value point of view it should be understood that the immediate area has little visual value and the placing of a cellular structure at the site will not cause any further degradation

From a health perspective a large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile telephone use, World Health Organisation. Furthermore *there is widespread public concern about the potential adverse health effects of mobile phones and their associated base stations. Alongside this there are hundreds of conflicting reports in the media about the health effects of mobile phones & base stations, however the scientific literature is large and confusing also apparently showing very inconsistent effects across studies. This makes it difficult to draw any conclusions on the effects of base stations on human health, Elaine Fox, Research Professor at the University of Oxford.*

From a visual perspective, the following details cannot be ignored:
- **Type of mast: A lattice mast is proposed for the site. This type of mast is considered to be the most suitable and structurally stable structure to accommodate the large number of equipment which is intended to be mounted on the mast. This type of mast generally has a lower visibility rating that a solid structure due to its transparent nature. Unfortunately the large numbers of equipment intended to be mounted on it will increase the visual exposure and visibility rating, should they not be painted in a grey colour proposed for the mast.**

Overall the impacts of the proposed development will range from medium to very low during the construction phase and from high to very low during the operational phase.

The table below provides a summary of the identified impacts, their pre-mitigation and post mitigation impact significance rating scores.

Table 12: Summary of impacts Proposal

Summary of impacts	Significance rating of impacts before mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE		
1.1 Dust/Air pollution: The generation of fugitive dust associated with construction activities & earthworks.	Insignificant	Insignificant
2.1. Visual Intrusion and Light Pollution: Lights from the contractor's camp and construction site could be visually intrusive.	Insignificant	Insignificant
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Insignificant	Insignificant
3.2 Soil pollution	Insignificant	Insignificant
3.3 Disturbance of surface geology for development foundations	Very Low	Very Low
4.1 Degradation, destruction of	Very Low	Very Low

habitats/ ecosystem -		
4.2 Impacts on fauna and flora	Low	Very Low
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	Medium	Low
6.1 Noise/ vibration	Insignificant	Insignificant
6.2 Impact on the privacy of adjacent land owners	Insignificant	Insignificant
7.1 Safety and Security	Insignificant	Insignificant
7.2 Job opportunities	Medium (positive)	Low
7.3 Hygiene	Very Low	Very Low
8.1 Destruction of cultural / heritage sites	Insignificant	Insignificant
9.1 Waste	Very Low	Very Low
OPERATIONAL PHASE		
1.1 Alien invasion	Medium	Low
2.1 Safety & Security	Low	Very Low
3.1. Impact of Electromagnetic radiation on human health	Insignificant	Insignificant
4.1 Visual impact – 20m Lattice Mast	High	High
5.1 Erosion of adjacent areas	High	Medium
6.1 Aviation traffic - Structure might impact on air traffic if it does not have day markings	High	Medium
7.1 Property values	Medium	Low

Alternative 1

The potential impacts for Alternative 1 are similar to that of the proposal with the only exception being the increased impact on the receiving environment as a result of the placement of the mast on the koppie and the access thereto.

Table 13: Summary of impacts Alternative 1

Summary of impacts	Significance rating of impacts before mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE		
3.1 Soil erosion, loss of topsoil, deterioration of soil quality	Low	Insignificant
3.3 Disturbance of surface geology for development foundations	Low	Very Low
4.1 Degradation, destruction of habitats/ ecosystem -	High	Medium
4.2 Impacts on fauna and flora	High	Medium
5.1 Storm water flow and drainage- Developments cause the modification of drainage patterns. Storm water may be concentrated at certain points, increasing the velocity of flow in one area and reducing flow in another. This may contribute to flooding, soil erosion, and sedimentation of nearby water bodies.	High	Medium

OPERATIONAL PHASE		
4.1 Visual impact – site on crest of koppie	**High**	**High**
5.1 Erosion of adjacent areas	**High**	**High**

Alternative 2

No further alternatives investigated.

No-go (compulsory)

The do-nothing ("no go") option would entail not using the site and maintaining the site as is. Please see below the summary of impacts should the no-go alternative be followed:

Table 14: Summary of impacts - No-Go Alternative

Summary of impacts	Significance rating of impacts before mitigation	Significance rating of impacts after mitigation
CONSTRUCTION PHASE		
1.1 Impacts on the environment	**Insignificant**	**Insignificant**
OPERATIONAL PHASE		
1.1. Continued coverage problems	**High**	**Medium**

7. IMPACT SUMMARY OF THE PROPOSAL OR PREFERRED ALTERNATIVE

For proposal:

The impacts of the proposed activities have been summarised under Paragraph 5 above.

For alternative:

The impacts of the proposed activities have been summarised under Paragraph 5 above.

Having assessed the significance of impacts of the proposal and alternative(s), please provide an overall summary and reasons for selecting the proposal or preferred alternative.

It is proposed that the site be developed for a 45m High Red and White Lattice Mast. The proposal is preferred and reasons are provided below:

1. **A lattice mast is preferred instead of a monopole because it is considered to be the most suitable and structurally stable structure to accommodate the large number of equipment which is intended to be mounted on the mast. This type of mast also has a lower visibility rating due to its transparent nature when compared to a monopole.**
2. **The site falls within Zone 3: High Rural Control Zone of the GPEMF, 2015 and is conditionally compatible with the intentions for Zone 3.**
3. **The proposed site falls within a Mixed alien and indigenous vegetation study unit. This unit is not considered sensitive and already very disturbed.**
4. **The proposed development footprint is relatively small.**

8. SPATIAL DEVELOPMENT TOOLS

Indicate the application of any spatial development tool protocols on the proposed development and the outcome thereof.

One of the strategic objectives of the Lesedi Local Municipality's Integrated Development Plan 2018/19 is to preserve the City's resources for future generations. The City plays an important role in ensuring the preservation of good quality water and clean air, the management of land and ensuring by-law enforcement regarding the exploitation of natural resources.

9. RECOMMENDATION OF THE 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 as bound by professional ethical standards and the code of conduct of EAPASA).	**YES**	NO

If "NO", indicate the aspects that require further assessment before a decision can be made (list the aspects that require further assessment):

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 competent authority in respect of the application:

- **Site to be demarcated prior to construction taking place. Koppie area to be a no-go area.**
- **Dust control methods to be employed in situations with excessive dust**
- **No access to adjoining properties to be allowed.**
- **Development to be respective of neighbouring properties privacy**

10. THE NEEDS AND DESIRABILITY OF THE PROPOSED DEVELOPMENT

(as per notice 792 of 2012, or the updated version of this guideline)

Cellular telecommunication technology is an integral part of modern daily life and licensed cellular telecommunication service operators have an obligation in terms of their license agreements, as stipulated by national government, to provide the services throughout South Africa within the allocated bandwidth spectrum. The cellular telecommunication user base is still increasing (quantitative growth) and users must be enabled to choose the services rendered by any of the licensed operators anywhere in South Africa (choice and availability). The expansion of service types and content (content & technology growth) furthermore requires continuous equipment and network

11. THE PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

(CONSIDER WHEN THE ACITIVTY IS EXPECTED TO BE CONCLUDED)

Short term (Up to 2 years)

12. ENVIRONMENTAL MANAGEMENT PROGRAMME (EMPR)

(must include post construction monitoring requirements and when these will be concluded.)

If the EAP answers "Yes" to Point 7 above then an EMP is to be attached to this report as an Appendix

EMPr attached	**YES**

SECTION F: APPENDIXES

The following appendixes must be attached as appropriate (this list is inclusive, but not exhaustive):

It is required that if more than one item is enclosed that a table of contents is included in the appendix

Appendix A: Site plan(s) – *(must include a scaled layout plan of the proposed activities overlain on the site sensitivities indicating areas to be avoided including buffers)*

Appendix B: Photographs

Appendix C: Facility illustration(s)

Appendix D: Route position information

Appendix E: Public participation information

Appendix F: Water use license(s) authorisation, SAHRA information, service letters from municipalities, water supply information

Appendix G: Specialist reports

Appendix H: EMPr

Appendix I: Other information

CHECKLIST

To ensure that all information that the Department needs to be able to process this application, please check that:

- Where requested, supporting documentation has been attached;
- All relevant sections of the form have been completed.