





ECC-45-247-REP-05-D

ENVIRONMENTAL SCOPING REPORT

PROPOSED CONSTRUCTION OF PARATUS TELECOMMUNICATION (PTY) LTD BASE TRANSCEIVER STATION EAST OF BLOCK 55, TOWNLANDS NO. 41 IN SWAKOPMUND, ERONGO REGION

PREPARED FOR



MARCH 2020

PO BOX 91193 Windhoek Namibia Environmental Compliance Consultancy CC CC/2013/11404



TITLE AND APPROVAL PAGE

Project Name:	Proposed construction of Paratus Telecommunication (Pty) Ltd base transceiver station east of Block 55, Townlands no. 41 in Swakopmund, Erongo Region	
Project Number	ECC-45-247-REP-05-D	
Client Name:	Paratus Telecommunication (Pty) Ltd	
Ministry Reference:	NA	
Status of Report:	Final submitted to Government	
Date of issue:	March 2020	
Review Period	N/A	

Environmental Compliance Consultancy Contact Details:

We welcome any enquiries regarding this document and its content: please contact:

Stephan Bezuidenhout

Environmental Consultant & Practitioner Tel: +264 81 699 7608 Email: <u>stephan@eccenvironmental.com</u> www.eccenvironmental.com Jessica Mooney Environmental Consultant & Practitioner Tel: +264 81 699 7608 Email: jessica@eccenvironmental.com www.eccenvironmental.com

Confidentiality

Environmental Compliance Consultancy Notice: This document is confidential. If you are not the intended recipient, you must not disclose or use the information contained in it. If you have received this document in error, please notify us immediately by return email and delete the document and any attachments. Any personal views or opinions expressed by the writer may not necessarily reflect the views or opinions of Environmental Compliance Consultancy.

Please note at ECC we care about lessening our footprint on the environment, therefore all documents are printed double-sided.



EXECUTIVE SUMMARY

Paratus Telecommunication (Pty) Ltd (herein referred to as Paratus or the proponent) is a multinational organisation and has established telecommunication services across Africa over the years. Paratus proposes to construct a Base Transceiver Station (BTS) east of Block 55, Townlands no. 41 in Swakopmund, Erongo Region. The proponent believes that owning its infrastructure is crucial to the delivery of the quality of service that matches the demands of its customers. The proposed project will improve, develop and promote effective information sharing by expanding network coverage, which will provide telecommunication services to the targeted society.

The proposed project triggers listed activities in terms of the Environmental Management Act, No. 7 of 2007 and Environmental Impact Assessment (EIA) Regulations, No. 30 of 2012, thus it requires an EIA to be conducted to obtain an environmental clearance certificate. An environmental scoping report and Environmental Management Plan (EMP) will describe the detailed potential environmental impact assessments and conditions or commitments, which will be adhered to by the proponent. The scoping report and EMP will be submitted to the competent authority as part of the decision-making process. The EIA was undertaken using a methodology developed by Environmental Compliance Consultancy (ECC), which is based on the International Finance Corporation (IFC) standard for environmental and social impact assessments. Through the scoping process, a review of the site and surrounding environment was completed by undertaking desktop reviews and a site assessment visit.

This assessment has evaluated the potential environmental impacts of the proposed project, which includes, but not limited to possible grievances or complaints, visual impacts, but also a health risk perceived by some of the identified stakeholders; however, there is a preference for the new development, which brings a fast, reliable and smart telecommunication service. Through the process, it was determined that the likely effects were not deemed significant due to the small magnitude of change from the baseline environment; the short duration of potential impacts; and the reversibility of effects once activities end. On this basis, it is the opinion of ECC that an environmental clearance certificate could be issued, on conditions that the management and mitigation measures specified in the EMP are implemented and adhered to.



TABLE OF CONTENTS

1	INTR	ODUCTION	. 7
	1.2 1.3 1.4 1.5 1.6	Background of the Proposed Project Purpose of this report Environmental Legal Requirements The Proponent of the Proposed Project Environmental Consultancy Report Structure	9 9 9 10 11
2		JLATORY FRAMEWORK	
	2.2	National Regulatory Regime International Regulatory Requirement Permits and licences	14
3	MET	HODOLOGY AND APPROACH	16
	 3.2 3.3 3.4 3.5 3.6 3.7 3.8 	Newspaper Advertisements	16 18 18 18 19 19 24 24 24
4	PROJ	ECT DESCRIPTION	24
	4.2 4.3 4.3.1 4.3.2 4.3.3 4.3.4 4.3.5 4.3.6 4.3.7	Proposed Activities Proposed Base Transceiver Station and Associated Infrastructure Construction Phase Equipment and material Workers and accommodation Resource use and waste management Operational Phase Decommissioning Phase	25 25 26 26 26 26 27 27 27 27
5		RONMENTAL AND SOCIAL BASELINE	
	5.2 5.3 5.4 5.5	Introduction Project Site Location And Surrounding Environment Climate Fauna and Flora Landscape, Geology and soils Radiation Background	28 28 28 28



5.7 S	ocio-Economic	. 29			
5.7.1	Governance				
5.7.2	Demographic Profile	. 30			
5.7.3	Employment	. 30			
5.7.4	Economic Activities	. 30			
5.7.5	Cultural Heritage	. 31			
5.8 S	Scoping Assessment Findings	. 32			
5.9 L	imitations and Uncertainties	. 32			
6 ENVIR	RONMENTAL MANAGEMENT PLAN	. 37			
7 CONC	LUSIONS	. 38			
REFERENCE	ES	. 39			
APPENDIX A – EMP					
APPENDIX	APPENDIX B – NON-TECHNICAL SUMMARY				
APPENDIX	APPENDIX C – EVIDENCE OF PUBLIC CONSULTATION				
APPENDIX	APPENDIX D – ECC CVS				

LIST OF TABLES

TABLE 1 – CONTACT DETAILS OF THE PROPONENT	10
TABLE 2 – ENVIRONMENTAL SCOPING REPORT STRUCTURE	11
TABLE 3 – A LIST OF APPLICABLE NATIONAL LEGISLATION AND THE RELEVANCE TO THE PROJECT	12
TABLE 4 – PERMITS AND LICENCES REQUIRED BY PARATUS FOR THIS PROJECT	15
TABLE 5 – A LIST OF DIFFERENT LEVELS OF SENSITIVITY AND VALUE OF RECEPTORS	19
TABLE 6 – A LIST OF DIFFERENT NATURES OF IMPACT	20
TABLE 7 – A LIST OF THE DIFFERENT LEVELS OF MAGNITUDE OF CHANGE	21
TABLE 8 – A LIST OF THE DIFFERENT LEVELS OF CERTAINTY	21
TABLE 9 – A GUIDE TO SIGNIFICANCE RATINGS	22
TABLE 10 – A DESCRIPTION OF THE LEVELS OF SIGNIFICANCE	
TABLE 11 – A LIST OF LIMITATIONS AND ASSUMPTIONS OF THE ASSESSMENT	32
TABLE 12 – A SUMMARY OF THE FINDINGS OF THE SCOPING ASSESSMENT	33

LIST OF FIGURES

FIGURE 1 – A SATELLITE IMAGE SHOWING THE PROJECT LOCATION FOR THE PROPOSED BASE TRANSCEIVER STATIONS
FIGURE 2 – A DIAGRAM DEPICTING THE ECC SCOPING PROCESS
FIGURE 3 – LOCATION OF THE PROPOSED OF BTS IN TAMARISKIA AND TOWNLANDS NO.41



ABBREVIATIONS

BTS	Base Transceiver Station
DEA	Directorate of Environmental Affairs
ECC	Environmental Compliance Consultancy
ECNS	Electronic Communications Network Service
ECS	Electronic Communications Service
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EMP	Environmental Management Plan
ICNIRP	International Commission on Non-Ionizing Radiation Protection
IFC	International Finance Cooperation
I&APs	Interested and Affected Parties
MET	Ministry of Environment and Tourism
MICT	Ministry of Information and Communication Technology
WHO	World Health Organization International



1 INTRODUCTION

1.1 BACKGROUND OF THE PROPOSED PROJECT

Paratus Telecommunication (Pty) Ltd, (herein referred to as Paratus or the proponent) is a multinational organization and has established telecommunication services across Africa over the years. Paratus is always prepared, and in order to meet the mobile services (voice and data) users' demand throughout Namibia, the Proponent proposes to construct a BTS on a portion of land located to the east of block 55 (Townlands No.41) in Swakopmund, Erongo Region (FIGURE 1). Paratus considers that using its infrastructure is crucial to the delivery of and compliance to the rigorous quality of service demands from its customers, thus it proposes to construct the BTS. The proposed project will improve, develop and promote effective information sharing by expanding network coverage, which will provide telecommunication service to the targeted society. Furthermore, with the current population increase in urban areas, the telecommunication service has experienced tremendous growth in terms of users, this includes advances in technology from 2G to 3G and 4G networks within the proposed area.

Namibia is one of the African countries that fully support information and communication technology; as such the government has encouraged the modernization of the global, market-related telecommunication service technology. In recent years, this led to Telecom Namibia constructing a fibre-based network to connect the central government to the administrative capitals of all regions in the country, in order to support the government efforts towards effective telecommunication service delivery to the wider public. There is a substantial growth in the number of telecommunication service users, especially with mobile communication, which supports and improves the socio-economic growth in the country, thus the need to construct a BTS to meet the demand with the fast and reliable network coverage.

The proposed project requires an EIA to be conducted as stipulated in the Environmental Management Act, No. 7 of 2007 and its regulations, to obtain an environmental clearance certificate. As such, an environmental scoping report and EMP will describe the detailed potential environmental impact assessments and conditions or commitments, which will be adhered to by the proponent. The scoping report and EMP will be submitted to the competent authority as part of the decision-making process.



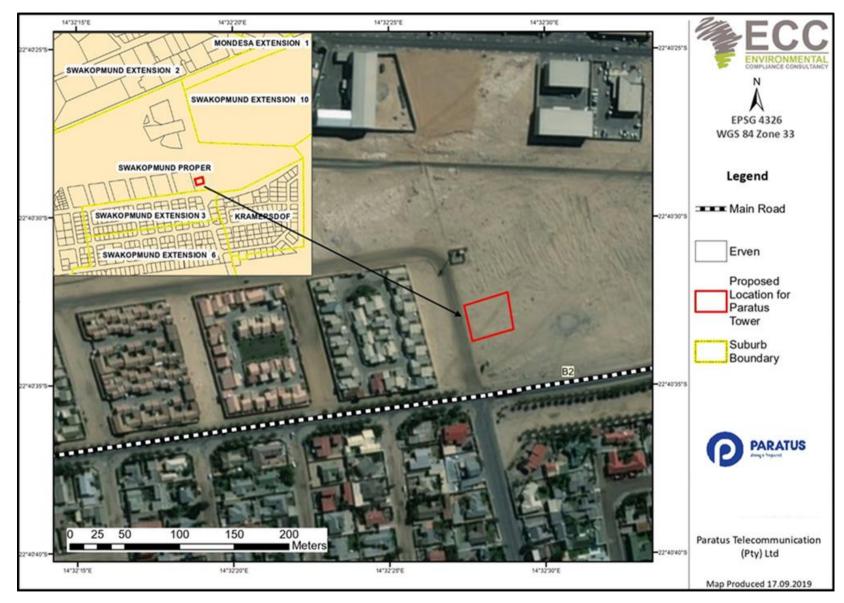


FIGURE 1 – A SATELLITE IMAGE SHOWING THE PROJECT LOCATION FOR THE PROPOSED BASE TRANSCEIVER STATIONS



1.2 PURPOSE OF THIS REPORT

Environmental Compliance Consultancy (ECC) has been appointed by Paratus Telecommunications (Pty) Ltd to undertake the EIA for the proposed construction of the BTS and associated infrastructure.

This report will present the findings of the EIA for the proposed construction of the BTS and associated infrastructure. It has been undertaken in terms of the requirements of the Environmental Management Act, No. 7 of 2007 and the EIA Regulations (No. 30 of 2012). This scoping report, plus assessment and appendices will be submitted to the Ministry of Information and Communication Technology (MICT) and the Directorate of Environmental Affairs (DEA) at the Ministry of Environment and Tourism (MET) for review as part of the application for an environmental clearance certificate.

This scoping report and EMP will address possible impacts, explore alternatives, develop technical recommendations and mitigation measures for the proposed construction of the BTS and its associated infrastructure.

ECC has identified potential environmental impacts through a project-specific environmental impact assessment, and suggested mitigation measures for the proposed project, as discussed within this report. To address these potential impacts, considering that the proposed site is located within an already disturbed footprint and Paratus will use previously assessed technology, further specialist studies were not deemed necessary. A desktop study and site assessment were conducted to identify areas of potential concern and propose mitigation measures to prevent environmental harm.

1.3 Environmental Legal Requirements

The Environmental Management Act, No. 7 of 2007 stipulates that an environmental clearance certificate is required to undertake listed activities in terms of the Act and its regulations. Listed activities triggered by the proposed project are as follows:

INFRASTRUCTURE

- 10.1 The construction of:
 - (g) Communication networks including towers, telecommunication, and marine telecommunication lines and cables.

1.4 The Proponent of the Proposed Project

Paratus Telecommunication (Pty) Ltd was founded in 2005, as the first privately and 100% wholly owned Namibian telecommunications operator. Paratus holds both a Class Comprehensive Telecommunications Service License (Electronic Communications Service (ECS) and Electronic Communications Network Service (ECNS)) and a Broadcasting Service License for Signal Distribution, thus becoming the first telecommunications operator able to fully provide converged services in Namibia. The proponent can provide national telecommunication network services through aggregated partner networks to offer a full end-to-end service to its customers. In Namibia, currently, Paratus has various access technologies such as Fiber, Microwave, Fixed LTE and Mobile LTE for customers. As such, customers can be assured that the



network is stable, reliable and has the ability to not only scale with capacity, but also provide redundancy, disaster recovery and route diversity to ensure maximum uptime. The contact details for the proponent is listed in Table 1.

TABLE 1 – CONTACT DETAILS OF THE PROPONENT

CONTACT PERSON	POSTAL ADDRESS	EMAIL ADDRESS	TELEPHONE
Robert Archer	Paratus Namibia Head Office, P O Box 90140, Klein Windhoek, 102-106 Nickel Street, Prosperita, Windhoek	robert.archer@paratus.africa	+264811276608

1.5 Environmental Consultancy

ECC, a Namibian consultancy (registration number Close Corporation2013/11401), has prepared this scoping report and impact assessment on behalf of the proponent. ECC operates exclusively in the environmental, social, health and safety fields for clients across Southern Africa, in both the public and private sectors. ECC is independent of the proponent and has no vested or financial interest in the proposed project, except for fair remuneration for professional services rendered. All compliance and regulatory requirements regarding this EIA report should be forwarded by email or posted to the following address:

Environmental Compliance Consultancy

P O BOX 91193 Klein Windhoek, Namibia Tel: +264 81 6697608 Email: info@eccenvironmental.com



1.6 REPORT STRUCTURE

This scoping report is structured as per the contents set out in Table 2.

TABLE 2 – ENVIRONIVIENTAL	SCOPING REPORT STRUCTURE

SECTION	TITLE	CONTENT	
-	Executive Summary	Executive summary of the EIA.	
-	Acronyms	A list of acronyms used during the report.	
1	Introduction	This section introduces the EIA and provides background information on	
		the proposed project, proponent and purpose of the report.	
2	Regulatory Framework	This chapter describes the Namibian and international environmental	
		regulatory framework applicable to the project and how it has been	
		considered in the assessment and the scoping report and EMP.	
3	Methodology and	This chapter presents the methodology applied to the EIA.	
	Approach		
4	Project Description	Presents a description of the proposed project and how the proposed	
		project will be operated.	
5	Environmental and	This chapter presents the predicted potential environmental and social	
	Social Baseline	effects arising from the proposed project, and the mitigation and	
		management strategies to be applied to avoid or reduce the effects.	
6	Environmental	This chapter predicts the potential environmental and social impacts	
	Assessment Findings and	arising from the project, the assessment of impacts, including residual	
	Mitigation	impact. This chapter also outlines the proposed management strategie	
		for monitoring commitments to ensure the actual and potential impacts	
		on the environment are minimised to "As Low As Reasonably Practicable"	
		this informs the EMP.	
7	Environmental	This chapter provides a short description of the EMP used to take pro-	
	Management Plan	active action by addressing potential problems before they occur and	
		outline mitigation measures for each impact.t	
8	Conclusions	Conclude the findings of the EIA.	
	References	A list of references used for this report.	
Appendices	Appendices A-D	A list of appendices used for this report	
		 Appendix A: Environmental Management Plan 	
		Appendix B: Non-Technical Summary	
		- Appendix C: Evidence of Public Consultation, Site notice, Newspaper	
		adverts, Project Registered Post	
		 Appendix D: ECC CV's 	



2 **REGULATORY FRAMEWORK**

This chapter outlines the regulatory framework applicable to the proposed project. Table 3 provides a list of applicable national legislation and the relevance to the project.

2.1 NATIONAL REGULATORY REGIME

TABLE 3 – A LIST OF APPLICABLE NATIONAL LEGISLATION AND THE RELEVANCE TO THE PROJECT

NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Communications Act,	The Act provides for the regulation of	Compliant with this act and relevant
No. 8 of 2009 and	telecommunication services and networks;	Regulations including license
relevant regulations,	broadcasting, postal services and the use and	conditions for Telecommunication
subject to the	allocation of radio spectrum; the establishment of	Service Licenses.
Regulations	an independent Communications Regulatory	
Regarding Licence	Authority of Namibia (CRAN); to make provision	
conditions for	for its powers and functions; the granting of	
Telecommunications	special rights to telecommunications licensees;	
Service Licences as	the creation of an Association to manage the	
published in	internet domain namespace; and for matters	
Government Gazette	connected therewith.	
5037, Notice No 308,		
13 September 2012		



NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
The Aviation Act, No. 74 of 1962 and Namibian Civil Aviation Regulations Part 139	Provides effect to certain International Aviation Conventions and makes provision for the control, regulation and encouragement of flying within the Republic of Namibia and for other matters incidental thereto.	Provides the regulations for setting up cellular structures e.g. on obstacle limitation and marking such as no obstacle higher than 45 m above mean level of the landing area will be erected or be allowed to come into existence, within a distance of 15 km measured from the aerodrome reference point of any aerodrome, unless the plans for such erection or coming into existence have been approved by the executive director.
Local Authorities Act, No. 23 of 1992	To provide for the determination, for purposes of local government, of local authority councils; the establishment of such local authority councils; and to define the powers, duties and functions of local authority councils; and to provide for incidental matters.	Municipality of Swakopmund is responsible Local Authority who should be consulted to ensure that the proposed project is compliant with the act, its regulations and their by-laws.





NATIONAL REGULATORY REGIME	SUMMARY	APPLICABILITY TO THE PROJECT
Environmental Management Act, No. 7 of 2007 and its regulations, including the Environmental Impact Assessment Regulations, No. 30 of 2012	The act aims to promote sustainable management of the environment and the use of natural resources by establishing principles for decision- making on matters affecting the environment. It sets the principles of environmental management as well as the functions and powers of the Minister. The act requires certain activities to obtain an environmental clearance certificate before project development. The act states an EIA may be undertaken and submitted as part of the environmental clearance certificate application. MET is responsible for the protection and management of Namibia's natural environment. DEA - MET is responsible for the administration of the EIA process.	This environmental scoping report and EMP documents and the findings of the environmental assessment undertaken for the proposed project, which will form part of the environmental clearance application. The assessment and report have been undertaken in line with the requirements of this act and associated regulations.
Soil Conservation Act, No. 76 of 1969	Makes provision for the prevention and control of soil erosion and the protection, improvement and the conservation, improvement and manner of use of the soil and vegetation.	There will be minimal soil disturbance during construction e.g. trenches.
National Heritage Act, No. 27 of 2004	The act provides provision of the protection and conservation of places and objects with heritage significance. Section 55 stipulates that exploration companies must report any archaeological findings to the National Heritage Council after which a heritage permit needs to be issued.	The initial desktop assessment did not identify any areas of potential concern with regards to heritage. However, if any heritage sites are discovered during the project phases a "chance finder procedure" will be used.
The Atomic Energy and Radiation Protection Act, No. 5 of 2005	This act provides for adequate protection of the environment and of people in current and future generations against the harmful effects of radiation by controlling and regulating the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and controlling and regulating prescribed non-ionising radiation sources.	The act ensures protection against non-ionising radiation. The proposed BTS has the potential of emitting minimal non-ionising radiation.

2.2 INTERNATIONAL REGULATORY REQUIREMENT

The following legal documents are applicable to this development:

- The World Health Organization (WHO) International Electromagnetic Fields (EMF) Project
 - The EMF project aim is to assess the scientific evidence of possible health effects of EMF in the frequency range from 0 to 300 GHz



- The International Commission on Non-Ionizing Radiation Protection (ICNIRP)
 - Published guidelines on limiting exposure to EMF, to protect against all known adverse health effects, and
 - This publication resulted from a thorough review of the scientific literature and assessed all health risks to both the general public and workers.

2.3 PERMITS AND LICENCES

Table 4 below lists the permits and licenses that are required for the proposed project.

TABLE 4 – PERMITS AND LICENCES REQUIRED BY PARA	
TADLE 4 – PERIVITIS AND LICENCES REQUIRED BY PARA	ATUS FUR THIS PROJECT

PERMIT/LICENCE	RELEVANT AUTHORITY	VALIDITY
Class Comprehensive Telecommunications	Communications Regulatory Authority of Namibia	5 Years
Service License (ECS & ECNS)		
Spectrum Use Licenses	Communications Regulatory Authority of Namibia	1 Year
Broadcasting Service License for Signal	Communications Regulatory Authority of Namibia	5 Years
Distribution		



3 METHODOLOGY AND APPROACH

3.1 PURPOSE OF THE ENVIRONMENTAL IMPACT ASSESSMENT

The EIA process in Namibia is governed and controlled by the Environmental Management Act, No. 7 of 2007 and the EIA Regulations, No. 30 of 2012, which is administered by the office of the environmental commissioner through the DEA of the MET.

The purpose of the EIA is to identify, predict, evaluate and mitigate the potential impacts of a proposed project on the natural and human environment. Besides, the scoping assessment, EIA process and subsequent reports are to apply the principles of environmental management to the proposed activities; reduce the negative and increase the positive impacts arising from a project; provide an opportunity for the public to consider the environmental impacts of a proposed project through meaningful consultation; and to provide a vehicle to present the findings of the assessment process to competent authorities for decision making. Furthermore, the assessment process helps to determine the spatial and temporal scope; and identify the assessment methodology which is most applicable for use.

The scope of the assessment was determined through undertaking a preliminary assessment of the proposed project against the receiving environment, obtained through a high-level desktop review and a site visit, which was conducted on the 24th September 2019.

3.2 The Assessment Process

The EIA methodology applied to this assessment has been developed using the IFC standards and models, in particular, Performance Standard 1: 'Assessment and management of environmental and social risks and impacts' which establishes the importance of (IFC, 2012):

- Integrated assessment to identify the environmental and social impacts, risks, and opportunities of projects
- Effective community engagement through disclosure of project-related information and consultation with local communities on matters that directly affect them, and
- The client's management of environmental and social performance throughout the life of the project.

Furthermore, the Namibian Draft Procedures and Guidance for EIA and EMP (Republic of Namibia, 2008) as well as the international and national best practice documents to our disposal and over 25 years of combined EIA experience, were also drawn upon in the assessment process.

This impact assessment is a formal process in which the effects of certain types of development on the biophysical, social and economic environments are identified, assessed and reported so that the effects can be taken into account when considering whether to grant development consent or to provide financial support.

Final mitigation measures and recommendations are based on the cumulative experience of the consulting team and the client, taking into consideration the potential environmental and social impacts. The process followed through the basic assessment is illustrated in Figure 2 and detailed further in the following sections.



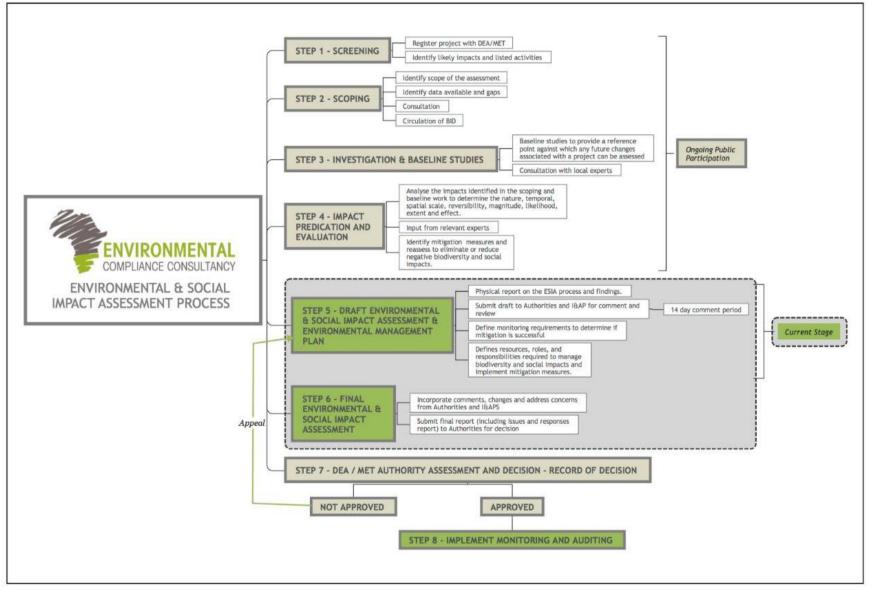


FIGURE 2 – A DIAGRAM DEPICTING THE ECC SCOPING PROCESS



3.3 METHODOLOGY FOR THE IMPACT ASSESSMENTS

ECC's methodology for environmental impact assessments was used and is based on models for environmental and social impact assessments set out by the IFC Principal 1: 'Assessment and management of environmental and social risks and impacts'. Furthermore, the impact assessment for the proposed project was undertaken in accordance with Namibian legal requirements.

Desktop studies on the national database are undertaken as part of the scoping stage to get information about the current status of the receiving environment. This provides a baseline where changes that can occur as a result of the proposed project, can be measured. This is then verified through site data collection.

The environmental and social topics that may be affected by the proposed project are described in this section. The baseline focuses on receptors which could be affected by the proposed project.

3.4 SCREENING OF THE PROPOSED PROJECT

The first stages in the EIA process is to register the project with the DEA/MET and undertake a screening exercise to determine whether it is considered as a listed activity under the Environmental Management Act, No. 7 of 2007 and associated Regulations and if significant impacts may arise from the project. The location, scale and duration of project activities will be considered against the receiving environment.

It was concluded that an EIA (e.g. scoping report and EMP) is required, as the proposed project is considered as a Listed Activity and there may be potential for significant impacts to occur.

3.5 SCOPING OF THE ENVIRONMENTAL ASSESSMENT

The purpose of the scoping stage in the EIA process is to identify the scope of assessment; undertake a high-level assessment to identify potential impacts and to confirm if further investigation is required; to assign the severity of potentially significant effects; and to allocate appropriate mitigation.

This report presents the findings of the scoping phase and high-level assessment, and it confirms that no further investigation is required. This conclusion is presented in Section 6.

3.6 BASELINE STUDIES

Baseline studies are undertaken as part of the scoping stage, which involves collecting all pertinent information from the current status of the receiving environment. This provides a baseline against which changes that occur as a result of the proposed project can be measured.

For the proposed project, baseline information was obtained through a desk-top study, focussing on environmental receptors that could be affected by the proposed project and were verified through site data.

A robust baseline is required to provide a reference point against which any future changes associated with a project can be assessed, and it allows for suitable mitigation and monitoring actions to be identified.

The existing environment and social baseline for the proposed project were collected through various methods:



- Site visit
- Desk-top studies
- Consultation with stakeholders (local authority's), and
- Door to door engagement with neighbouring residents (Appendix C).

3.7 IMPACT PREDICTION AND EVALUATION

The key stage of the EIA process is the impact prediction and evaluation stage. This stage is the process of bringing together project characteristics with the baseline environmental characteristics and ensuring all potentially significant environmental and social impacts are identified and assessed. Impact prediction and evaluation involve predicting the possible changes to the environment as a result of the proposed project. The recognized methodology was applied to determine the magnitude of impact and whether or not the impact was considered significant and thus warrant further investigation. The assessment considers all stages of the project's life cycle that is scoped into the assessment and are presented in this report. It is an iterative process that commences at project inception and runs through to the final design and project implementation (construction and operations). The impact prediction and evaluation stage were undertaken in October – December 2019 and the findings of the assessment are presented in Section 6.

3.8 EIA DETERMINATION OF SIGNIFICANCE

The evaluation and prediction of the environmental and social impacts require the assessment of the project characteristics against the baseline characteristics, ensuring all potentially significant impacts are identified and assessed.

The significance of an impact is determined by taking into consideration the combination of the sensitivity and importance/value of environmental and social receptors that may be affected by the proposed project; the nature and characteristics of the impact; and the magnitude of potential change. The magnitude of change (the impact) is the identifiable changes to the existing environment which may be negligible, low, minor, moderate, high or very high; temporary/short term, long-term or permanent; and either beneficial or adverse. These are described as follows and thresholds are provided in (**Error! Reference source not found.** -7).

- The sensitivity and value of a receptor are determined by identifying how sensitive and vulnerable a receptor is to change, and the importance of the receptor (internationally, nationally, regionally and locally)
- The nature and characteristics of the impact are determined through consideration of the frequency, duration, reversibility and probability of the impact occurring, and
- The magnitude of change measures the scale or extent of the change from the baseline condition, irrespective of the value. The magnitude of change may alter over time; therefore, temporal variation is considered: short-term, medium-term; long-term, reversible, or irreversible.

TABLE 5 – A LIST OF DIFFERENT LEVELS OF SENSITIVITY AND VALUE OF RECEPTORS



SENSITIVITY AND VALUE	DESCRIPTION
High	Of value, importance or rarity on an international and national scale, and with very limited potential for substitution; and/or very sensitive to change, or has little capacity to accommodate a change.
Medium	Of value, importance or rarity on a regional scale, and with limited potential for substitution; and/or moderate sensitivity to change, or moderate capacity to accommodate a change.
Low	Of value, importance or rarity on a local scale; and/or not particularly sensitive to change, or has considerable capacity to accommodate a change.

TABLE 6 – A LIST OF DIFFERENT NATURES OF IMPACT

NATURE	DESCRIPTION					
	An impact that is considered to represent an improvement on the baseline or introduces a					
Positive	positive change.					
	An impact that is considered to represent an adverse change from the baseline, or					
Negative	introduces a new undesirable factor.					
D: 1	Impacts causing an impact through direct interaction between planned project activity a					
Direct	he receiving environment/receptors.					
	Impacts that result from other activities that are encouraged to happen as a result/consequence of the Project. Associated with the project and may occur at a later					
Indirect	time or wider area.					
Extent / Geographic						
Extent / Geographic						
On-site	Impacts that are limited to the boundaries of the proposed project site.					
	Impacts that occur in the local area of influence, including around the proposed site and					
Local	within the wider community.					
	Impacts that affect a receptor that is regionally important by virtue of scale, designation,					
Regional	quality or rarity.					
N	Impacts that affect a receptor that is nationally important by virtue of scale, designation,					
National	quality or rarity.					
International	Impacts that affect a receptor that is internationally important by virtue of scale, designation, quality or rarity.					
Duration	designation, quality of failty.					
Daration	Impacts that are likely to last for the duration of the activity causing the impact and are					
Short-term	recoverable.					
	Impacts that are likely to continue after the activity causing the impact and are					
Medium-term	recoverable.					
	Impacts that are likely to last far beyond the end of the activity causing the damage, but					
Long-term	are recoverable over time.					
Reversibility						
Permanent	Impacts which are not reversible and are permanent.					
/Irreversible						
Temporary /	Impacts are reversible and recoverable in the future.					
Reversible						
Likelihood						
	The impact is likely to ecour					
Certain	The impact is likely to occur.					

MARCH 2020



Likely	The impact is likely to occur under most circumstances.
Unlikely	The impact is unlikely to occur.

TABLE 7 – A LIST OF THE DIFFERENT LEVELS OF MAGNITUDE OF CHANGE

MAGNITUDE OF CHANGE	DESCRIPTION				
	Loss of resource, and quality and integrity of resource; severe damage to key characteristics,				
. Animu	features or elements; or				
Major	Large scale or a major improvement of resources quality; extensive restoration or				
	enhancement; major improvement of attribute quality.				
	Loss of resource, but not adversely affecting its integrity; partial loss of/damage to key				
	characteristics, features or elements; or				
Moderate	Benefit to, or addition of, key characteristics, features or elements; improvements of				
	attribute quality.				
	Some measurable change in attributes, quality or vulnerability; minor loss of, or alteration				
	to, one (or maybe more) key characteristic, feature or element; or				
Minor					
	Minor benefit to, or addition of, one (or maybe more) key characteristic, feature or element;				
	some beneficial effect on attribute quality or a reduced risk of a negative effect occurs.				
	Very minor loss or detrimental alteration to one (or maybe more) characteristic, feature or				
Nogligiblo	element; or				
Negligible	Very minor benefit to, or positive addition of, one (or maybe more) characteristic, feature or				
	element.				

The level of certainty has also been applied to the assessment process to demonstrate how certain the conclusions are and where there is potential for misinterpretation or a requirement to identify further mitigation measures, thereby adopting a precautionary approach. If there is a low degree of certainty, monitoring and management measures can be implemented to determine if the impacts are worse than predicted and support the identification of additional mitigation measures through the lifetime of the proposed project. TABLE **8** provides the levels of certainty applied to the assessment, as well as a description.

TABLE 8 – A LIST OF THE DIFFERENT LEVELS OF CERTAINTY

LEVEL OF CERTAINTY	DESCRIPTION
High	Likely changes are well understood. Design/information/data used to determine impacts is very comprehensive. Interactions are well understood and documented. Predictions are modelled, and maps based on interpretations are supported by a large volume of data. Design/information/data has very comprehensive spatial coverage or resolution.

MARCH 2020



Medium	Likely changes are understood. Design/information/data used to determine impacts include a moderate level of detail. Interactions are understood with some documented evidence. Predictions are modelled but not yet validated and/or calibrated. Mapped outputs are supported by moderate spatial coverage or resolution.
Low	Interactions are currently poorly understood and not documented. Predictions are not modelled, and the assessment is based on expert interpretation using little or no quantitative data. Design is not fully developed, or information has poor spatial coverage or resolution.

The significance of impacts has been derived using professional judgment and applying the identified thresholds for receptor sensitivity and magnitude of change (as discussed above), whilst guided by the matrix presented in TABLE 9. The matrix is applicable for impacts that are either positive or negative. The distinction and description of significance and whether the impact is positive or negative is provided in TABLE 10.

TABLE 9 – A GUIDE TO SIGNIFICANCE RATINGS

Negligible	Minor	Moderate	Major		
Minor (3)	Moderate (6)	Major (9)	Major (12)	High	
Low (2)	Minor (4)	Moderate (6)	Major (8)	Medium	Sensitivity
Low (1)	Low (2)	Minor (3)	Moderate (4)	Low	



Significance is not defined in the Namibian EIA Regulations; however, the Draft Procedure and Guidance for EIA and EMP states that the significance of a predicted impact depends upon its context and intensity. Accordingly, definitions for each level of significance has been provided in TABLE 10. These definitions were used to check if the conclusions of the assessment of receptor sensitivity, nature of impact and magnitude of impact were appropriate.

TABLE 10 – A DESCRIPTION OF THE LEVELS OF SIGNIFICANCE

SIGNIFICANCE OF	DESCRIPTION
Major (negative)	Impacts are considered to be key factors in the decision-making process that may have an impact of major significance, or large magnitude impacts occur to highly valued/sensitive resource/receptors. Impacts are expected to be permanent and non- reversible on a national scale and/or have international significance or result in a legislative non- compliance.
Moderate (negative)	Impacts are considered within accepted limits and standards. Impacts are long term, but reversible and/or have regional significance. These are generally (but not exclusively) associated with sites and features of national importance and resources/features that are unique and which, if lost, cannot be replaced or relocated.
Minor (negative)	Impacts are considered to be important factors but are unlikely to be key decision-making factors. The impact will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value. Impacts are considered to be short term, reversible and/or localized in extent.
Low (negative)	Impacts are considered to be local factors that are unlikely to be critical to decision- making.
Low – Major (Beneficial)	Impacts are considered to be beneficial to the environment and society.

Colour coding has been applied to differentiate the impacts, the beneficial impacts are highlighted in green, whereas red indicates the major negative impacts (Table 10).

The significance of impacts has been derived using professional judgment and applying the identified thresholds for receptor sensitivity and magnitude of change, as well as the definition of significance. In most instances, moderate and major adverse impacts are considered as significant; however, there may be some instances where impacts are lower than this but are still considered to be significant. As such, the following thresholds were used to double-check if the assessment of significance had been applied appropriately. A significant impact would meet at least one of the following criteria:

- It exceeds widely recognized levels of acceptable change
- It threatens or enhances the viability or integrity of a receptor or receptor group of concern, and
- It is likely to be material to the ultimate decision about whether or not the environmental clearance certificate is granted.



3.9 EIA CONSULTATION

Public participation and consultation are a requirement stipulated in Section 21 of the Environmental Management Act, No. 7 of 2007 and associated regulations for a project that needs an environmental clearance certificate. Consultation is a compulsory and critical component in the EIA process in achieving transparent decision-making and can provide many benefits.

The objectives of the stakeholder engagement process are to:

- Provide information on the project: introduce the overall concept and plan
- Clarify responsibility and regulating authorities
- Listen to and understand community issues, concerns and questions
- Explain the process of the EIA and timeframes involved, and
- Establish a platform for ongoing consultation.

3.9.1 NON-TECHNICAL SUMMARY

The Non-Technical Summary (NTS) presents a high-level description of the proposed project; sets out the EIA process and when and how consultation is undertaken; and provides contact details for further project-specific inquiries to all registered Interested and Affected Parties (I&APs). The NTS was distributed to registered I&APs and can be found in Appendix B.

3.9.2 NEWSPAPER ADVERTISEMENTS

Notices regarding the proposed project and associated activities were circulated in February in the two newspapers namely the 'Namibian' and 'Informante' (Appendix C). The purpose of this was to commence the consultation process by informing the public about the project and enabling I&APs to register an interest with the project.

3.9.3 SITE NOTICES

A site notice ensures neighbouring properties and stakeholders are made aware of a proposed project. The notice was set up at the proposed site as illustrated in Appendix C.

4 **PROJECT DESCRIPTION**

4.1 NEED FOR THE PROPOSED PROJECT

With the current population increase, the telecommunication service has experienced tremendous growth in terms of the number of users. As such, Paratus has identified the need to provide increased telecommunication services and hence improve customers' satisfaction in cellular networks, by constructing a BTS within the proposed site. Additionally, the proposed site has the preferred topography with no significant land-use problems which are unlikely to limit the network coverage optimization efforts. The BTS is the most important element in the network as they provide the physical connection to the mobile devices.



4.2 ALTERNATIVES CONSIDERED

Considering the public need for telecommunication service, two sites have been identified and examined based on their availability, the area located on the east of Block 55 (Townlands No. 41) and on a portion of land adjacent to the Tamariskia cemetery (ERF 785) as indicated in Figure 3. Another alternative that was considered is placing the instrument on top of the highest building structure. As such alternatives considered did not meet the pre-screening requirements, which include increased coverage area for emergency responders; new technology which will support frequencies that improve/expand voice and/or data coverage; improve communication; enhance security; facilitate control; and use cost-effective measures, through leasing agreements.

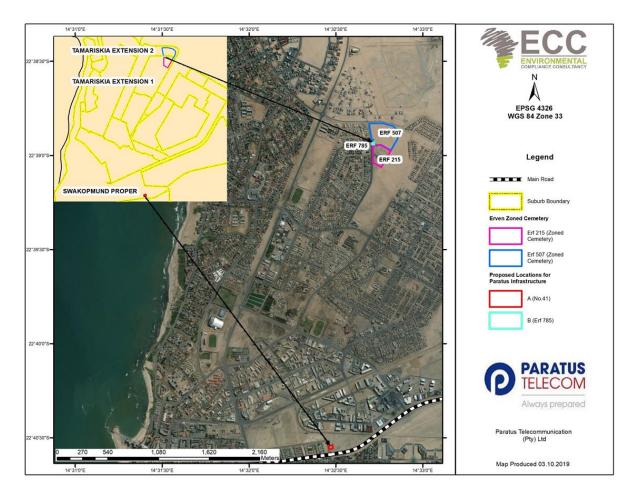


FIGURE 3 – LOCATION OF THE PROPOSED OF BTS IN TAMARISKIA AND TOWNLANDS NO.41

4.2.1 NO-GO ALTERNATIVE

The option of not constructing a new BTS would mean that Paratus will not be able to supply telecommunication services to cater for the increased demand for network coverage around the proposed site. As a result, poor reception and/or no network access for mobile phone users will occur. In that regard, the "no-go alternative" is not preferred, and as such, the project could positively



contribute to economic growth and other development by providing market-related, fast and reliable telecommunication service with minimal negative impacts.

4.3 PROPOSED ACTIVITIES

4.3.1 PROPOSED BASE TRANSCEIVER STATION AND ASSOCIATED INFRASTRUCTURE

The first phase of the project will comprise of:

- The Proponent accept and adhere to standard lease conditions of the Swakopmund Municipality as resolved in the Council meeting on the 23rd May 2019
- The Swakopmund Engineering Services Department will provide a layout plan for the exact location on the identified erven to be used for the BTS
- Paratus will install their electrical meter so that any expenses and costs generated will, to them, and
- Following completion, Paratus will be responsible for the proper maintenance of the BTS and its associated infrastructure.

4.3.2 CONSTRUCTION PHASE

The proposed construction phase will include low-impact and non-intrusive activities. The following are envisaged during the proposed project:

- Staging area development
- Minor ground preparation (trenches and levelling) of the site
- Storage and stockpiling of material for the construction of the tower
- Construction of the tower
- Installation of cables and wiring
- Concrete casting
- Construction of parameter fencing, and
- Commissioning of transmitters.

4.3.3 EQUIPMENT AND MATERIAL

Equipment and material will be stockpiled for construction in staging areas, which are located near the proposed site. The preferred BTS height will be between 25 m - 30 m to provide 100% transmission and reception of telecommunication service signals. The typical BTS equipment would include 3G Access Power Solutions-APS6-400 Series, High-Performance Point-to-Point Microwave Antenna, FibeAir IP-20G Radio, Panel antenna and AirHarmony 4000/4200/4400. Delivery of construction material and equipment will require light-to-heavy transport vehicles, but no abnormal or hazardous loads will be used. Construction vehicles are to make use of the existing roads to transport equipment and material to the site.



4.3.4 WORKERS AND ACCOMMODATION

The proposed construction of the BTS and associated infrastructure will create over 10 employment opportunities to the local community, mainly from Swakopmund. All project employees will be accommodated in Swakopmund or Walvis Bay during the construction period.

4.3.5 RESOURCE USE AND WASTE MANAGEMENT

All waste that will be generated on-site, including general household waste, timber (pallets, paints and electrical solvents from construction etc.) and plastics will be disposed of in the nearest appropriate dumping site e.g. Rent-A-Drum skip removal.

4.3.6 Operational Phase

During operation, the BTS and associated infrastructure will require minimal intervention and maintenance. However, periodic inspections (monthly and yearly) and general maintenance of the equipment, such as rust or corrosion management will be done by the proponent.

4.3.7 DECOMMISSIONING PHASE

Should the proposed BTS and associated infrastructure no longer be required, all the equipment would be removed, followed by rehabilitation and/or reclamation of the area. Alternatively, and with the agreement of interested or identified stakeholders, the BTS and associated infrastructure could remain to be leased for future telecommunication service use.



5 ENVIRONMENTAL AND SOCIAL BASELINE

5.1 INTRODUCTION

The detailed environmental and socio-economic baseline assessment of the proposed project are provided in this report. Baseline studies aim to assess possible project impacts (positive, negative and cumulative), thus ensure input into the project designs, which avoid, reduce or mitigate the potentially adverse environmental and social risks. This section provides an overview of the existing biophysical environment through the analysis of the available baseline data regarding the receiving environment. Desktop studies, followed by site verification on the national database are undertaken as part of the scoping process to get information about the current status of the receiving environment. This provides a baseline where changes that occur as a result of the proposed project can be measured.

5.2 PROJECT SITE LOCATION AND SURROUNDING ENVIRONMENT

The proposed project is located on a portion of land located to the east of block 55 (Townlands No.41) in Swakopmund, Erongo Region (Figure 1). Swakopmund has been identified as a key tourist attraction area with high potential economic opportunity for business as well as a growth point for the mining industry; as such good telecommunication service is of a high priority to ensure efficient and effective communication at all times.

The selected site has existing telecommunication service infrastructure and Paratus has considered sharing as required by the Communication Act of 2009; however, this was not possible because their operating capacity is full. Paratus will be willing to share the infrastructure with other telecommunication service providers in the near future for the proposed project.

5.3 CLIMATE

The proposed site is within the Namib desert climatic zone, with nearly no rainfall throughout the year. Swakopmund's climate is characterised by mild summers and cool winters with the mean temperatures ranging between 10°C and 24°C. Fog is the most common precipitation within the project site, with a mean of about 60 days with fog events per year. Wind can occur any time of the day, with the predominant winds from the W – SSW, NW – NNE and NE – E with some seasonal variations in wind speed and direction (Mendelsohn et al., 2002).

5.4 FAUNA AND FLORA

No endemic, threatened or rare fauna and flora species occur at the proposed area.

5.5 LANDSCAPE, GEOLOGY AND SOILS

The proposed project is within the Kalahari and Namib sand geology, which is comprised of natural flat landscape with Petric Calcisols soil formations, old crystalline rocks that form the basement to the Permo-Triassic Karoo Sequence and the young deposits of the Namib Desert. The crystalline basement consists of rocks of Abbabis Metamorphic Complex and Swakop Groups of the Damara Sequence (Schreiber, 1996).



5.6 RADIATION BACKGROUND

Radiation is the emission of energy as electromagnetic waves or as moving subatomic particles and it is part of our everyday environment (Clegg *et al*,.2019). Exposure to radiation can be from cosmic rays, as well as to radioactive materials found in the soil, water, food and air. There are two types of radiation namely; ionizing and non-ionizing radiation. Ionizing radiation is types of energy released by atoms that travel in the form of electromagnetic waves such as gamma or x-rays or particles (e.g. neutrons, beta or alpha). Non-ionizing radiation is part of the electromagnetic spectrum where there is insufficient energy to cause ionization, such as in the case of electric and magnetic fields, radio waves, microwaves and optical radiation (ITU-T, 2014).

Non-ionizing radiation encompasses both natural and human-made sources of electromagnetic fields, for example, electrical power supplies and appliances are the most common sources of low frequency electric and magnetic fields in our living environment (ITU-T, 2014). Everyday sources of radiofrequency electromagnetic fields include telecommunications, broadcasting antennas and microwave ovens. Humans have been exposed to natural electromagnetic fields throughout their lifetime; however, sources of electromagnetic fields have increased in the past century, especially with the development of technology and radio communications (Clegg *et al*,.2019). Radiofrequency electromagnetic fields from BTS are perceived to possibly have effects on human health from exposure; however, there is no substantiated evidence that the proposed project would cause such harm (ITU-T, 2014).

5.7 Socio-Economic

In Namibia, telecommunications service, especially mobile communications, have created a significant positive socio-economic outcome over the past decades. As a result, telecommunication service has a significant positive impact on economic growth; employment; and local and regional development. An example of this is where some communities currently have found online business opportunities through improved connectivity.

5.7.1 GOVERNANCE

Since independence in 1990, Namibia is led by a democratically-elected and stable government to date. The country ranked top 5 out of 54 African countries in the Ibrahim Index of African Governance in 2015 for the indicators including the quality of governance and the government's ability to support human development; sustainable economic opportunity; rule of law and human rights; and development of smart information and communication technology to access information for socio-economic growth (National Planning Commission, 2017).

As a result of sound governance and stable macroeconomic management, Namibia has experienced rapid socio-economic development. Namibia has achieved the level of 'medium human development' and ranks 125th on the Human Development Index out of 188 countries (National Planning Commission, 2017).



The Namibian constitution provides for the establishment of Local authorities by law under the Municipal Ordinance, 1963 (Ordinance 13 of 1963) and the Local Authorities Act, No. 23 of 1992. As such the Local Authorities have the power to pass by-laws for the effective administration of their Municipalities and Communities; therefore, Paratus will adhere to the Swakopmund Municipality By-Laws and Regulations.

5.7.2 DEMOGRAPHIC PROFILE

Namibia is one of the least densely populated countries in the world, with a population of 2.3 million. Life expectancy is 65 years and expected years at schooling is 11.7 (National Planning Commission, 2017). Namibia's population is expected to increase from an estimated 2.11 million in 2011 to 3.44 million by 2041 (63%). It is predicted that urbanisation will continue, with an increase from 43% population in urban areas in 2011 to 67% in 2041. The populations of Khomas and Erongo are projected to increase the most with over a third of Namibia's population to live in these two regions (Namibia Statistics Agency, 2011). In Erongo region, Swakopmund and Walvis Bay are the main towns expected to have an increase in urbanisation, mostly due to economic activities resulting from mining, tourism and the fishing industry.

In the 2011 Census, the population of the Erongo Region was 150 809, with a growth rate of 28.6% since 2001. The population of Namibia has been growing steadily; the population growth rate between 2001 and 2011 (the two census) was 1.4%, with urban areas growing quicker than rural areas. The highest growth rate in Namibia was recorded in the Erongo region (3.4%). This was mainly influenced by in-migration; more than 40% of residents in these regions were born elsewhere. Situated in the central Namib Desert, Swakopmund is a fourth-largest populated town in Namibia and the capital of the Erongo region administrative district with 44 725 inhabitants (Namibia Statistics Agency, 2011).

5.7.3 EMPLOYMENT

The Erongo Region is one of the most affluent regions in Namibia, with the second-highest per capita income in Namibia at N\$16 819 per annum. The labour force participation rate is the proportion of the economically active people in a given population group, which is calculated as the number of economically active people divided by the total population in the same population group. The labour force participation for the country was 64%, and 79% for the Erongo Region. The unemployment rate in the Erongo Region was around 30% (with Swakopmund contributing about 24%, of which the majority is the youth), lower than the national rate of 37% (Namibia Statistics Agency, 2011).

5.7.4 ECONOMIC ACTIVITIES

The Namibian economy has grown on average by 4.6% per year between 2012 and 2016; however, slowed down in 2016 to 0.2% due to a reduction in productivity in the farming industry. The growth rate over the years has not reduced unemployment; in 2016 nearly 18% of the population lived in poverty. A lack of industrialisation and infrastructure has contributed to Namibia's economic imbalance. The 5th Namibian NDP (National Development Plan (Planning Commission 2017) states that, by modernising and industrialising of the major sectors of agriculture, fisheries, manufacturing, mining and tourism, and by providing trading opportunities so that workers can upgrade their skills, Namibia will create jobs in a diverse range of industries which will improve economic growth. As such,



there is a potential causative effect between the proposed development (or telecommunication service in general) and economic activities; therefore, it is expected that the proposed project will significantly enhance and stimulate economic growth effectively in Swakopmund.

5.7.5 CULTURAL HERITAGE

Swakopmund is known as a historic town, for this reason, heritage resources are significant aspects of the society. These include historical or cultural sites, structures, buildings, or objects associated with important historical events or people, with potential tourism value. Consequently, the proponent will ensure that the proposed BTS does blend in with the background environment as practically as possible, to minimise or mitigate visual impacts.

5.7.6 NOISE AND VIBRATIONS

The proposed location is in an urban area with related activities; therefore, the noise would be minimal and no vibrations expected to result from the project. There would be a minimal temporary increase in localised noise generated during the construction activities of the BTS; however, the impact will be short term and will occur during normal working hours (e.g. 7:00 am - 5:00 pm).



ENVIRONMENTAL ASSESSMENT FINDINGS AND MITIGATION

5.8 SCOPING ASSESSMENT FINDINGS

The proposed project site was found to be sensitive to receptors (e.g. nearest neighbours and tourists) due to the possible visual impacts, but also a health risk perceived by some of the identified stakeholders; however, there is a preference for the new development, which brings a fast, reliable and smart telecommunication service. Paratus will comply with all the national and international regulatory frameworks and regulations as indicated in Section 2.

5.9 LIMITATIONS AND UNCERTAINTIES

Limitation and uncertainty were identified during the EIA process. In line with EIA best practice, assumptions have been made based on realistic worst-case scenarios, thereby ensuring that the worst-case potential environmental impacts are identified and assessed. Table 11 indicate the assumptions and uncertainties that were identified during the assessment process.

TABLE 11 – A LIST OF LIMITATIONS AND ASSUMPTIONS OF THE ASSESSMENT

LIMITATION / UNCERTAINTY	ASSUMPTION				
The project construction phase	It is assumed that a trench about 5 meters deep will be dug and then				
detailed method statement is not	filled with concrete for laying a foundation. The BTS structure will be				
available.	assembled on-site i.e. bolt the structure, and fasten the antennae before				
	installation. A concrete plinth will be used to anchor it for stability.				



The findings of the scoping assessment are summarized in Table 12.

TABLE 12 – A SUMMARY OF THE FINDINGS OF THE SCOPING ASSESSMENT

ΑCTIVITY	RECEPTOR	ΙΜΡΑCΤ	NATURE OF IMPACT	VALUE & SENSITIVITY	MAGNITU DE OF CHANGE	SIGNIFICA NCE OF IMPACT	MITIGATION MEASURES	SIGNIFICA NCE OF IMPACT (POST MITIGATIO N)
Erection of BTS structure	Community	 Increase the probability of grievances or complaints due to the construction of the BTS structure A nuisance to nearest neighbours and community Social discomfort/anxiety to the nearest neighbours Health and safety risk to workers and the surrounding community 	 Adverse Direct Reversible Negligible Short-term Local Likely 	Low	Negligible	Low (1)	 Engage with the surrounding communities and/or all stakeholders, especially the nearest neighbours about the construction Minimize and mitigate the use of heavy and nuisance causing machinery when possible Use correct PPE, when required Comply with all applicable national regulations and laws to minimize risks at the workplace Ensure appropriate supervision of activities If necessary, provide site inductions to workers about health and safety 	Low (1)



SCOPING REPORT FOR PARATUS TELECOMMUNICATION (PTY) LTD INFRASTRUCTURE

ACTIVITY	RECEPTOR	ІМРАСТ	NATURE OF IMPACT	VALUE & SENSITIVITY	MAGNITU DE OF CHANGE	SIGNIFICA NCE OF IMPACT	MITIGATION MEASURES	SIGNIFICA NCE OF IMPACT (POST MITIGATIO N)
Compensation to the municipality for leasing the land	Local Authority (Municipality of Swakopmund)	 Financial sustainability or economic growth to the local authority 	 Beneficial Direct Reversible Negligible Temporary Local Likely 	Minor	Negligible	Low (2)	 Negotiate acceptable and lawful land lease price with the local authority 	Low (1)
Creation of new employment opportunities to the local community	Community	- Creation of 10 jobs	 Beneficial Direct Reversible Negligible Temporary Local Likely 	Minor	Negligible	Low (2)	 Inform the local communities about the employment opportunities and required skills. Provide job opportunity for the local community 	Low (1)



SCOPING REPORT FOR PARATUS TELECOMMUNICATION (PTY) LTD INFRASTRUCTURE

ΑCTIVITY	RECEPTOR	ІМРАСТ	NATURE OF IMPACT	VALUE & SENSITIVITY	MAGNITU DE OF CHANGE	SIGNIFICA NCE OF IMPACT	MITIGATION MEASURES	SIGNIFICA NCE OF IMPACT (POST MITIGATIO N)
Procurement of goods and services from local business	Local and regional business	 Sourcing of goods and services from local or regional business could increase economic benefits 	 Beneficial Direct Reversible Negligible Temporary Local Likely 	Minor	Negligible	Low (2)	 Provide opportunities to local and regional enterprise to participate in the tender process Where possible, procurement of good and service should be sourced from local or regional businesses 	Low (1)
Operation of the BTS instrument	Community	 Possible adverse health effect of non-ionising electromagnetic fields to the surrounding neighbours, thus creating social discomfort/anxiety 	 Adverse Direct Partly Reversible Minor Short-term Local Rare 	Medium	Minor	Low (2)	 In partnership with relevant stakeholders, provide awareness campaigns about the effects of non-ionising electromagnetic fields on human health 	Low (2)



SCOPING REPORT FOR PARATUS TELECOMMUNICATION (PTY) LTD INFRASTRUCTURE

ACTIVITY	RECEPTOR	ІМРАСТ	NATURE OF IMPACT	VALUE & SENSITIVITY	MAGNITU DE OF CHANGE	SIGNIFICA NCE OF IMPACT	MITIGATION MEASURES	SIGNIFICA NCE OF IMPACT (POST MITIGATIO N)
Fast, reliable telecommunic ation service e.g. improved network coverage and good internet access	Community	 Increased number of telecommunication service users and no service complaints Progressively use of social media platforms which will improve economic growth for online enterprise 	 Beneficial Direct Reversible Negligible Temporary Local Likely 	Minor	Negligible	Low (2)	 Continue providing and upgrading the telecommunication service that will ensure zero grievances or complaints about the services and if there are any complaints, it should be addressed as soon as possible Ensure reasonable and affordable prices are set to allow the use of telecommunication service 	Low (1)
Poor or loss of telecommunic ation service and end-users	Community	 No access to mobile communication and internet connection Significant negative impact on community such as business owners and other organisations, which will lead to an increase in service delivery complaints 	 Adverse Direct Reversible Negligible Temporary Local Likely 	Minor	Negligible	Low (2)	 Engage all users and stakeholders about the decommissioning of the project and its impacts on time Ensure that all users are aware of the loss of Paratus telecommunication service for the area before decommissioning the BTS 	Low (1)



6 ENVIRONMENTAL MANAGEMENT PLAN

The EMP for the proposed project is presented in Appendix A. It provides detailed environmental management options to ensure that the impacts of the proposed project are avoided, minimised or mitigated. An EMP is a tool used to take pro-active action by addressing potential problems before they occur. This should limit the impacts on the environment and reduce the number of corrective measures needed during project execution.

The management measures should be adhered to during all stages of the project activities. All persons involved in the proposed activities should be made aware of the measures outlined in the EMP to ensure activities are conducted in an environmentally responsible manner.

The objectives of the EMP are:

- To include all components of the development and operations of the project
- To prescribe the best practicable control methods to lessen the environmental impacts associated with the project
- To monitor and audit the performance of operational personnel in applying such controls, and
- To ensure that appropriate environmental training is provided to responsible operational personnel.



7 CONCLUSIONS

ECC's EIA methodology was used to undertake the environmental assessment for the proposed project to identify if there is potential for significant effects to occur as a result of the proposed project. Through the scoping process, it was determined that there was no potential environmental risk that requires further specialist studies and assessment. The identified impacts on the environment were found to be minor. Various mitigation measures have been identified and listed for implementation in the EMP to avoid and/or reduce impacts as far as reasonably practicable, as well as to ensure the environment is protected and unforeseen effects and environmental disturbances are avoided.

On this basis, it is the opinion of ECC that an environmental clearance certificate could be issued, on condition that the management and mitigation measures specified in the EMP are implemented and adhered to.



REFERENCES

Clegg, F. M., Sears, M., Friesen, M., Scarato, T., Metzinger, R., Russell, C. L., & Miller, A. B. (2019). Building science and Radiofrequency Radiation: What makes smart and healthy buildings. Building and Environment, 106324.

- ITU-T. (2014). Focus Group on Smart Sustainable Cities: EMF Considerations in Smart Sustainable Cities
- International Finance Corporation. (2012). *IFC Performance Standards on Environmental and Social Sustainability*. The World Bank.
- Mendelsohn J., Jarvis A., Roberts S., Robertson T. (2002). Atlas of Namibia. A Portrait of the Land and its People. David Philip Publishers, Cape Town.
- Namibia Statistics Agency. (2011). Namibia 2011 Population and housing census main report. Windhoek.
- National Planning Commission. (2017). STATUS OF THE NAMIBIAN ECONOMY. Windhoek: National Planning Commission.
- Republic of Namibia. (2008). The Government Gazette of the Republic of Namibia, Draft Procedures and Guidelines for Environmental Impact Assessment and Environmental Management. Windhoek: Republic of Namibia.

Shahbazi-Gahrouei, D., Karbalae, M., Moradi, H. A., & Baradaran-Ghahfarokhi, M. (2014). *RETRACTED ARTICLE: Health Effects of Living near Mobile Phone Base Transceiver Station (BTS) Antennae: A Report from Isfahan, Iran*. Electromagnetic Biology and Medicine, 33(3), 206-210.

Schreiber U. (1996). The Geology of the Walvis Bay Area. Explanation of Sheet 2214, Geological Survey of Namibia, Windhoek

Singh, M. M., & Pati, A. K. (2016). *Effects of radiation emanating from base transceiver station and mobile phone on sleep, circadian rhythm and cognition in humans–a review*. Biological Rhythm Research, 47(3), 353-388.



APPENDIX A – EMP



APPENDIX B – NON-TECHNICAL SUMMARY



APPENDIX C – EVIDENCE OF PUBLIC CONSULTATION

The proposed project was published in The Namibian newspaper on the 26th February 2020 and 4th March 2020 and in the Informante newspaper on the 27th February 2020 and 5th March 2020 (online newspaper). Consent letter from the neighbours was obtained on 4th February 2020 and the site notices were set up at the proposed site in February 2020.

Evidence of public consultation in The Namibian newspaper.



THE NAMIBIAN

Wednesday 26 February 2020



WINDHOEK WALVIS BAY OSHAKATI SWAKOPMUND (061) 291 6800 (064) 206 152 (065) 224 470 (064) 418 800

MAKCH 2020

Automatic CVT Gearbox | Android Auto & Apple CarPlay | App Support & Voice Recognition | Dual Airbags | VDC/ABS | Rear Parking Sensors

WARRANTY • 6 YEARS/150 000KM

T& C'S APPLY







Online advert in the Informante newspaper.



Proposed Activity: Paratus Telecommunication (Pty) Ltd propose to construct Base Transceiver Stations and associated infrastructure on two locations in Swakopmund, Erongo Region. The first location is east of Block 55 (Townlands No. 41) and the second location on a portion of land adjacent to the Tamariskia cemetery (ERF 785). The preferred Base Transceiver Stations height will be between 25 to 30 meters' to provide adequate transmission and reception of telecommunication service signals. The typical Base Transceiver Station equipment would include 3G Access Power Solutions-APS6-400 Series, High-Performance Point-to-Point Microwave Antenna, FibeAir IP-20G Radio, Panel antenna and AirHarmony 4000/4200/4400.

Application for Environmental Clearance Certificate: In terms of the Environmental Management Act, 2007 (No 7 of 2007), ECC has been engaged by Paratus Telecommunication (Pty) Ltd to act on their behalf in applying for an Environmental Clearance to the Ministry of Environment and Tourism for the abovementioned project.

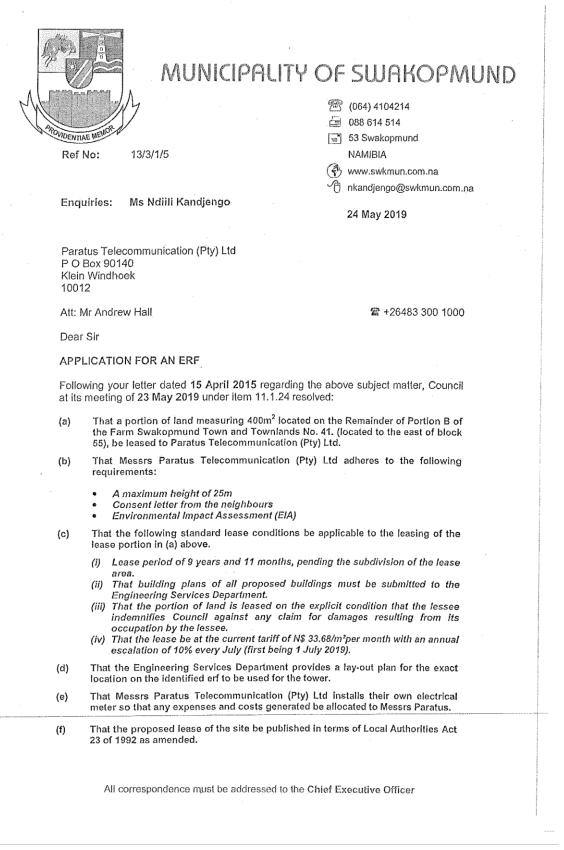


Site notice at the area located on the east of Block 55 (Townlands No. 41).





Consultation with the Municipality of Swakopmund



MARCH 2020



- (g) That Council's standard lease conditions be made applicable to the lease.
- (h) That all costs relating to the lease, including, but not limited to advertising costs, be for the account of the lessee.
- (i) That the following conditions be made applicable in addition to points (b) to (h) above to the lease:
 - (i) That Council will not reimburse Paratus Telecommunication (Pty) Ltd for any costs relating to the installation or removal of its properties or any other expense incurred during or after the termination of the lease agreement.
 - (ii) That any damages that may be caused to the lease site be for the account of Paratus Telecommunication (Pty) Ltd and shall be repaired at their cost and on demand.
 - (iii) That Paratus Telecommunication (Pty) Ltd will be responsible for the proper maintenance of the equipment and should such equipment not be well maintained and thus rust and become unsightly, the lease be cancelled and equipment removed at the cost of the lessee.

You are kindly requested to indicate in writing on / before Friday, 21 June 2019, whether you accept the above conditions.

Upon acceptance of the above, Council's intention to lease a portion of land measuring 400m² located on the Remainder of Portion B of the Farm Swakopmund Town and Townlands No. 41 (located to the east of block 55), will be published for possible objections as required in terms of section 63 of the Local Authorities Act 23 of 1992.

Kindly note that a payment of N\$ 3 500.00 is required for this publication (attached is Council's banking details).

Please email proof of payment to: nkandjengo@swkmun.com.na

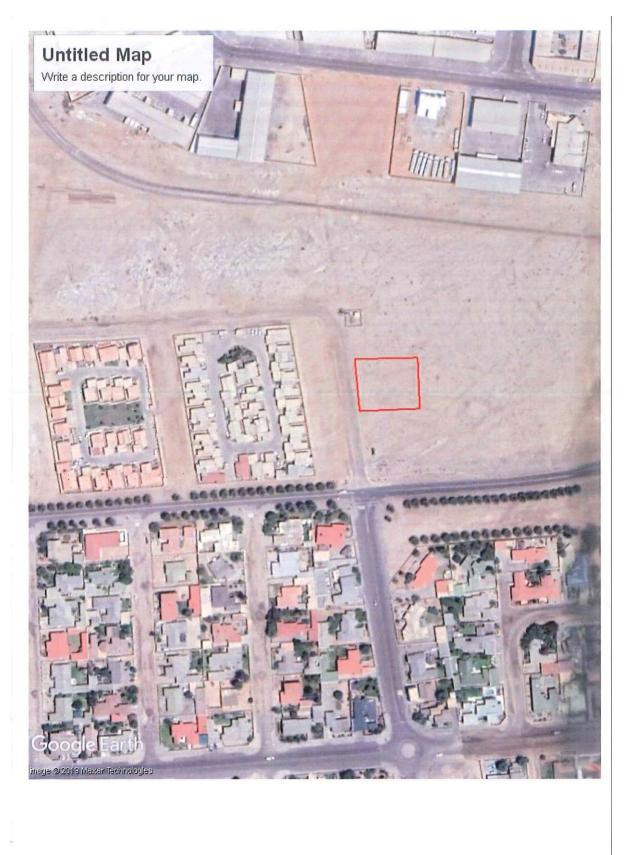
Should no objections be received, approval still has to be obtained from Minister of Urban and Rural Development, whereafter a lease agreement will be forwarded to you for signing. If objections are received, such will be submitted to Council for consideration; whereafter a motivation to proceed with the transaction will be submitted to the Ministry of Urban and Rural Development for consideration.

Should you have enquiries in this regard, please contact Ms N Gustaf at 200 064-4104214.

Yours faithfully

Mr M P C Swarts General Manager: Corporate Services & HR /ng







MUNICIPALITY OF SWAKOPMUND
[™] (064) 4104400 [™] (064) 4104125 [™] Fax2email: 0886519137 [™] 53 Swakopmund NAMIBIA [™] www.swkmun.com.na [™] townengineer@swkmun.com.na
townengineer@swkmun.com.na Enquiries: J Angolo 12 March 2018
Messrs Internet Technologies Namibia P O Box 90140 Klein Windhoek ~?@ info@internet.na WINDHOEK Namibia <u>Attention: Mr. J. D'Alton</u>
Dear Sir APPLICATION FOR THE SUBDIVISION OF ERF 507, TAMARISKIA INTO PORTION A AND REMAINDER AND SUBSEQUENT REZONING OF PORTION A OF ERF 507, TAMARISKIA FROM "CEMETERY" TO "LOCAL AUTHORITY" (C/M 2017/08/31 - T 507)
<u>RESOLVED:</u> (a) That subject to an Environmental Impact Assessment, Council approves the rezoning of Portion A of Erf 507, Tamariskia, from " <i>Cemetery</i> " to " <i>Local</i> <i>Authority</i> ".
Given the above decision, kindly appoint an Environmental Practitioner to undertake the Environmental study of the area, in order to conclude the lease agreement between yourself and Council, for BTS site.
Yours faithfully AD Duvenhage GENERAL MANAGER: ENGINEERING SERVICES JA/vrb Keply fren Eng 9 th May 5 th DM. 60 Columin 24 th May 5 th DM. 60 Columin 24 th May 5 th DM. 60 Columin 10 th May 5 th DM. 60 Columin 10 th May 5 th DM. 10 th May 5 th May 5 th DM. 10 th May 5 th May 5 th DM. 10 th May 5 ^t
All correspondence must be addressed to Chief Executive Officer
All correspondence must be dedressed to enter executive official







ATT: Corporate Services & HR Mr M P C Swartz Municipality of Swakopmund P. O. Box Swakopmund Namibia

RE: ACCEPTANCE OF REQUIREMENTS ON PORTION OF LAND MEASURING 400M LOCATED ON THE REMAINDER OF PORTION B OF THE FARM SWAKOPMUND TOWN AND TOWNLANDS NO. 41 (LOCATED TO THE EAST OF BLOCK 55)

Dear Mr. Swartz,

The above-mentioned matter bears reference, and your correspondence to our office dated 24 May 2019

Paratus Telecommunications hereby accepts the requirements as laid down in the correspondence dated 24 May 2019.

We trust that this meets with your approval.

Yours faithfully,

Gert Duvenhage Executive: Infrastructure

 PARATUS TELECOMMUNICATIONS (PTY) LTD

 PO Box 90140, Klein Windhoek, Namibia

 t
 +264 83 300 1000

 f
 +264 83 300 1485

Company Reg. No: 2007/0100 Directors: BRI Harmse / SLV Erasmus / A Hall / IB Amuenje / H Jansen van Vuuren* / JJ Esterhuyse* * South Africa



Acknowledgement and consent from the neighbours



3

ACKNOWLEDGEMENT AND CONSENT FORM

Frans Otto ! GAOSEB Frans Otto ! GAOSEB On behalf of:

Hereby acknowledge receipt of the attached letter informing key stakeholders and neighbours of the proposed construction of a BTS and associated infrastructure on the illustrated portion of land

+ hopefy give my consent? / I hereby do not give my consent* for the proposed construction of a BTS and associated infrastructure on the illustrated portion of land.

*strikethrough whichever is not applicable

1 02/ 1 2020 Received on the 04 h. Signature:

04/02/ 2020 Date



3



ACKNOWLEDGEMENT AND CONSENT FORM

HEIDI HOPPOVER

On behalf of: SANTORING COURT

Hereby acknowledge receipt of the attached letter informing key stakeholders and neighbours of the proposed construction of a BTS and associated infrastructure on the illustrated portion of land. RECEIVED

I hereby give my consent* / I hereby do not give my consent* for the proposed construction of a BTS and associated infrastructure on the illustrated portion of land. 70 BE DISCUSSED RT BODY CORPORATE MEETINg.

*strikethrough whichever is not applicable

Received on the 4TH I FEBR .1 2020

Signature: bl bl gefice



3



ACKNOWLEDGEMENT AND CONSENT FORM

On behalf of: SWAKOPMUND CONGREGATIONAL CHURCH

Hereby acknowledge receipt of the attached letter informing key stakeholders and neighbours of the proposed construction of a BTS and associated infrastructure on the illustrated portion of land.

here give my consent* / I hereby do not give my consent* for the proposed construction of a BTS and associated infrastructure on the illustrated portion of land.

*strikethrough whichever is not applicable

02, 2020 04, Received on the Signature: 04,02,2020 Date



APPENDIX D – ECC CVS



SCOPING REPORT FOR PARATUS TELECOMMUNICATION (PTY) LTD INFRASTRUCTURE

Stephan Bezuidenhout

ENVIRONMENTA

COMPLIANCE CONSULTANCY

Hello! :)



ABOUT ME

Name Jacobus Stephan Bezuidenhout - But you can call me Stephan -

> Born 11 April 1989



Current

Phone +264 81 262 7872

Email stephan@eccenvironmental.com

Website www.eccenvironmental.com

Contact me!

How to reach me!

kid.bezuidenhout

+264812627872

Stephan Bezuidenhout

Education & Qualifications

Postgraduate Degree in Environmental Management & Analysis

ENVIRONMENTAL ASSESSMENT

PRACTITIONER

Bachelors in Applied Science

- Snake Bite and Snake Handling
- Level 1 & 2 First Aid
- Industrial Environmental Compliance

N.S., et al., Some ecological side-effects of chemical and physical bush clearing in a southern African rangeland ecosystem, Southern African Journal of Botany (2015), http://dx.doi.org/10.1016/j.sajb.2015.07.012

The FSC National Forest Stewardship Standard of Namibia (Draft V 4). Co-authored by S Bezuidenhout, P Cunningham, A Ashby, F Detering, W Enslin & D Honsbein

Experience & Work History

Managing Director

R

University of Pretoria South Africa 2012

University of Stellenbosch

Additional Qualifications:

South Africa

Publications:

Since 2012, Stephan has been working as an environmental assessment practitioner. Stephan has a strong ecological background and has gained more than seven years experience in the environmental industry. As a lead practitioner, Stephan has successfully driven environmental impact assessments and compliance assessments within Southern Africa. His hands on and practical experience and knowledge of international standards, such as IFC and World Bank standards allows Stephan to advise his clients and teams constructively and effectively.

ENVIRONMENTAL CONSULTANT & PRACTITIONER

Stephan manages a dynamic team of environmental practitioners and graduates at Environmental Compliance Consultancy. The firms' core objective is to improve the national standard of environmental compliance by developing local capacity. To date Stephan and his team have successfully completed over 30 projects for various industries, including mining, energy, infrastructure, conservation and tourism.

MARCH 2020





References

Feel free to ask the boss :)

SALOME BEESLAAR Environmental Practitioner Pr.Sci.Nat: 400385/14

> ESCA COETZEE Environmental Scientist Sasol Technology

PHIL BARKER Pipeline Construction Superintendent Worley Parsons

Or ask those who have worked for me?

Michael Moreland Environmental Scientist CSP Solar Energy Projects

Professional Associations

- South African Institute of Ecologists and
- Environmental Scientists (SAIE&ES)
 Environmental Assessment Practitioners
- Association of Namibia (EAPAN#172). Member of FSC Environmental Chamber
- Executive Committee Member of
- Namibian Chamber of Environment

Fun Facts:

- Keen fisherman
- Passionate Hunter & Conservationist
- 21ft vessel certified skipper
- Summated Kilimanjaro
- Have survived scorpion stings and snakebites!
- Did I mention I love camping?
- Words I live by:

'Do what makes you happy the rest will follow'

Stephan Bezuidenhout

Managing Director +264 81 262 7872

Experience & Work History

Over the past two years he has mentored over eight interns (of which most still work closely with him) building their careers in environmental management, conservation and rangeland management.

Examples of projects successfully completed include:

 Abengoa Solar SA Paulputs CSP (Pty) Ltd. 150 MW CSP Tower Environmental Assessment Practitioner during EIA Process

Northern Cape Province, South Africa

- Abengoa Solar SA, Xina Solar One (200 MW) CSP Trough Environmental Control Officer during construction phase. Northern Cape Province, South Africa
- Abengoa Solar SA, Khi Solar One (50 MW) CSP Tower. Environmental Control Officer during commissioning and rehabilitation phases. Northern Cape Province, South Africa for Abengoa Solar
- Isondlo Project Support (IPS) (Pty) Ltd. Soil Remediation and commissioning report of NGALA Camp. Gauteng, South Africa
- Berekisanang Empowerment Farm. Annual external Water Use Licence audit and 70 hectare agricultural development. Northern Cape, South Africa.

Environmental Coordinator ROMPCO PIPELINE – Worley Parsons Mozambigue and South Africa

Stephan was employed by the Procurement, Management and Construction (PMC) consultant, Worley Parsons to manage the environmental aspects of the proposed linear development. Stephan managed a team of 12 positions for the duration of the project ensuring compliance of National and best practice such as IFC standards.





Jessica Mooney Environment & Safety Specialist

Hello! :)



ABOUT ME

Name Jessica Mooney

Born 24 October 1984

Phone +264 81 653 1214

Email Jessica@eccenvironmental.co m

Website www.eccenvironmental.com

Contact me!

How to reach me!

+264 81 653 1214 (

+264 81 653 1214

Jessica Mooney



Federation University Australia 2003-2006

> Additional Qualifications

Qualifications Bachelor of Applied Science -Environmental Management

Education &

Management Systems Leadership ICAM - Incident Cause Analysis Method Certificate II in Metalliferous Mining core safety and risk management Certificate III in Mine Emergency Response & Rescue Level 3 – HLTFA402B Apply Advanced first Aid Emergency Rope Rescue Level 2 - 21593VIC First Aid level 2

Bonded Asbestos Removal >10m2 Leading and Managing People – Brisbane North Institute of TAFE



Current

Experience & Work History

Environment and Safety Specialist Environmental Compliance Consultancy Providing professional consulting services to clients in Namibia with particular focus on approvals, ECCs, reporting and compliance. ECC Approvals Mine Closure Plans Rehabilitation Pipeline projects Cultural Change programmes IMS (ISO14001 and 18001) Group HSE Manager Weatherly Mining Namibia An exciting role covering the breadth of two operational underground mines (Otjihase and Matchless) and the construction of a new open pit mine (Tschudi) working for Weatherly Mining in Namibia, Africa. Managed company's SHEQ portfolio Full scale construction of new greenfield mine into operational copper mine Reduced LTIFR by 90% from 23.1 to 2.4 in 22 months! Implemented integrated management system Approvals, ECC renewals and EMPs Established the first mining environmental forums in Namibia

Implemented SAFE COPPER cultural change programme

PAGE 58 OF 62 ECC DOCUMENT CONTROL – ECC-45-247-REP-05-D





References

 \sim

Feel free to ask the boss :)

MR CRAIG THOMAS

Managing Director Weatherly Mining

MR COLIN BULLEN

Managing Director Imerys (client)

Group Manager Lihir Gold MR NICK CURREY Director at Sustainable Mining Strategies

Or ask those who have worked for me?

Ms Asteria Salmon Worked as Control Room Operator WMN Mr. Hermanus Lamprecht

Paramedic Safety Officer

Professional

Associations

- Chamber of Mines Namibia
- Women on Boards
- The Chamber of Minerals and Energy of Western Australia Industry Member – Mining, Minerals and Resources

Fun Facts:

- I can deadlift 135kg
- To keep fit I Olympic weight lift
- I run ultra Marathons & the longest run yet the fish river
- Canyon 65km I am one of 6 children - do you
- think that means 4 of us suffer middle child syndrome?

Words I live by:

'The journey will bring you happiest, not the destination'

Jessica Mooney

Environment & Safety Specialist

Experience & Work History

Environmental Consultant

Ensolve Pty Ltd - Australia In February 2013 an opportunity came about to launch my own business, Blue Wren Environmental Services.

During this time I have worked alongside Ensolve Pty Ltd to deliver several environmental projects including:

- A mine closure project taking an operating mine site into the rehabilitation and closure phase. This project involved the full development of a mine closure plan, facilitation of the government approvals, stakeholder engagement and technical environmental studies to inform the mine closure plan
- Sustainability reporting in accordance with the Global Reporting Initiative
- Rehabilitation of historic exploration sites and obtaining associated government approvals for relinquishment of bonds.

Site Environmental Manager

Panoramic Resources - Australia

- Brought the site into full compliance with the Environmental Licence within 1 year.
- Managed projects relating to the expansions of the current mine tailings dams including obtaining approvals under the Mining Act 1978 and Environmental Protection Act 1986.
- Managed the environmental and community aspects of three operations; Savannah Nickel Mine, Copernicus Nickel Mine (currently in care and maintenance) and the operations at Wyndham Port
- Responsible for the environment, sustainability and social reporting portfolio
- Developed productive working relationships with local government environmental agencies and non-government agencies, which assisted with the approvals process.
- Developed strategies for the recruitment and retention of local Indigenous personnel

Environmental Systems Coordinator

Lihir Gold Limited - Australia

Working on site to provide technical environmental and community advice to ensure all regulatory and licence obligations were met or exceeded

- Regulatory Approvals (State and Federal Government)
- Environment and social aspects of the international cyanide management code
- Operational budgeting and bond management for mine closure
- Compliance with the legislative framework
- Community engagement



٦

	Hello! :)		
Image: Name of the second s			
Namibia University of Science and Technology, Namibia 2016 Master of Science in Natural Resources Management ABOUT ME Name Titus Shuuya Iniversity of Namibia, 2013 Bachelor of Science in Integrated Environmental Science Born 14 April 1983 Image: Science in Integrated Environmental Science Email titus@eccenvironmental.com Image: Science			Qualifications
Science and Technology, Namibia 2016Master of Science in Natural Resources ManagementABOUT ME Name Titus ShuuyaUniversity of Namibia, Namibia 2013Bachelor of Science in Integrated Environmental ScienceABOUT ME Name Titus ShuuyaImagementBachelor of Science in Integrated Environmental ScienceBorn 14 April 1983ImagementEnvironmental Compliance Consultancy - Providing professional consulting services to clientstitus@eccenvironmental.comEnvironmental Assessment activities - Participate in environmental requirements of - Participate in environmental requirements of			
Namibia Bachelor of Science in Integrated Environmental Science ABOUT ME Image: Science Name Image: Science Titus Shuuya Image: Science Born Image: Science 14 April 1983 Image: Science Email Image: Science titus@eccenvironmental.com Image: Science Ititus@eccenvironmental.com Image: Science		Science and Technology, Namibia	
Name History Titus Shuuya Current Senior Scientist Environmental Born Practitioner 14 April 1983 Environmental Compliance Consultancy Email - Providing professional consulting services to clients titus@eccenvironmental.com - Participate in environmental requirements of		Namibia	
Titus Shuuya Current Senior Scientist Environmental Born Practitioner 14 April 1983 Environmental Compliance Consultancy Email Environmental Assessment activities titus@eccenvironmental.com Participate in environmental requirements of	ABOUT ME	-	Experience & Work
Born 14 April 1983 Email titus@eccenvironmental.com Born 14 April 1983 Email titus@eccenvironmental.com Born 14 April 1983 Email titus@eccenvironmental.com Born 14 April 1983 Email Current Senior Scientist Environmental Practitioner Environmental Compliance Consultancy - Providing professional consulting services to clients - Environmental Assessment activities - Participate in environmental requirements of			History
Born Environmental Compliance Consultancy 14 April 1983 Environmental Compliance Consultancy Email Providing professional consulting services to clients titus@eccenvironmental.com - Environmental Assessment activities Participate in environmental requirements of	Titus Shuuya	Current	
Email - Providing professional consulting services to clients titus@eccenvironmental.com - Environmental Assessment activities	Born		Practitioner
Email clients titus@eccenvironmental.com – Environmental Assessment activities Participate in environmental requirements of	14 April 1983	3	
titus@eccenvironmental.com – Environmental Assessment activities – Participate in environmental requirements of	Email	:	
projects, including licences, monitoring and			 Environmental Assessment activities Participate in environmental requirements of projects, including licences, monitoring and
Website reporting — Field work and on-site support			
www.eccenvironmental.com – Conduct training		Jul 2012 Jul	
Contact me! 2019 Senior Researcher	Contact me!		Senior Researcher
How to reach me!	How to reach me!		Cababab Basagraph and Training Contra
	+264 85 301 3777 🔇	÷	 Managing all planning and logistical
	+264 85 301 3777 应	:	implementation of field projects, particularly with reference to the Biodiversity Research and
References Monitoring Program	Deferences	:	
- Develop long-term ecological monitoring program	References	:	 Develop long-term ecological monitoring program for the uranium mines in fulfilment of their EMP
JESSICA MOONEY : requirements Environmental and Safety Consultant		:	
DR. GILLIAN MAGGS-KÖLLING Dec 2015 - Ecologist	DR. GILLIAN MAGGS-KÖLLING		Ecologist
Executive Director Apr 2016 Gobabeb Research and Training Centre Cheetah Conservation Fund of Namibia (CCF)		Apr 2016	Cheetah Conservation Fund of Namibia (CCF)
 Assist in all aspects of CCF's ecology research 			 Assist in all aspects of CCF's ecology research
publications			publications
<i>A slow movement of a cheetah</i> <i>is not a mistake but a</i> - Coordinate the de-bushing project and harvest and horticulture activities	A slow movement of a cheetan		 Coordinate the de-bushing project and harvest and horticulture activities
calculated accuracy'			

MARCH 2020





Emerita Lyapaka Ashipala Environmental Graduate

Hello! :)



Education & Qualifications

Glasgow Caledonian University, UK 2017 - 2018

Master's Degree in Environmental Management (Oil & Gas) (Distinction)

University of Namibia Bachelors in Environmental Biology

ABOUT ME

Name Emerita Lyapaka Ashipala

> Born 15 February 1994

> Phone +264 81 701 6851

> > Email

emerita@eccenvironmental.co m Website

www.eccenvironmental.com

Experience & Work History

Environmental Graduate

Current

2013 - 2016

Working with Environmental Compliance Consultancy Providing professional consulting services to clients in Namibia with particular focus on:

- Drafting EIA adverts and NTS documents
- Assisting in the development of scoping reports and
- Environmental Management Plans for exploration projects

Intern

Community-Based Natural Resource Management (CBNRM) Project, GIZ Namibia Roles and Responsibilities:

- Managed a high-volume workload within a deadlinedriven environment.
- Responsible for weekly press review.
- Compilation and analyses of data collected from field for baseline study of projects.
- Assists in project management activities.
- Ensure work ethics is compliant with approved codes and standards.
- Even/workshop assistance planner.
- Engaged in clients and stakeholders' meetings.
- Provides overall project management support throughout the entire life cycle of projects.

Team Leader (Ad hoc Registration Official)

Electoral Commission of Namibia

- Roles and Responsibilities:
- Kit operator
- Printing of registration cards
- Responsible for keeping order and safe guarding of all equipment

Working with Environmen



Emerita Lyapaka Ashipala Environmental Graduate

References

RONMENTAL

Feel free to ask the boss :)

JESSICA MOONEY Environment & Safety Specialist

STEPHAN BEZUIDENHOUT Managing Director

Or ask those who have worked with me?

Experience & Work History

Undergraduate Internship

South African Science Of Climate Change and Adaptive Land Management (SASCCAL), Namibia *Role and Responsibilities:*

- Compilation of news in all regions, for newsletter publication
- Using qGIS to digitise map drawings
- Organising various task research portfolios

Prof Jim Baird Programme Leader Glasgow Caledonian University j.baird@gcu.ac.uk

Fun Facts:

- I am an adventurous
- Passionate on learning more about Oil and Gas

Words I live by:

"Be willing to go all out, in pursuit of your dream. Ultimately it will pay off. You are more powerful than you think you are."