

# *Environmental Assessment Scoping Report for:*

*April 2024*

*Permanent Closure and Rezoning of  
Erf 682, Nkurenkuru Extension 1  
from “Public Open Space” to  
“Business” in Nkurenkuru Kavango  
West Region.*

**APP- 003534**

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## PROJECT DETAILS

<b>Title</b>	Environmental Scoping Report for the: <ul style="list-style-type: none"> <li>Permanent Closure and Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business” in Nkurenkuru Kavango West Region.</li> </ul>		
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## **EXECUTIVE SUMMARY**

### **Introduction**

The Nkurenkuru Town Council hereinafter referred to as the proponent intends to undertake the following activities:

- **Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “public Open Space”.**
- **Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business”.**

During the initial Public Participation Process, the adverts were written the Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “public Open Space” and Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Office” for the Purpose of Medical Consulting Rooms. During the Public Participation Period, our office received a comment from one of the current Lawful Owner that they are not intending to operate a medical consulting room but intends to make use of other development (Business) other than medical room. The Office of the Nkurenkuru Town Council then resolved to change the application from Rezoning from “Public Open Space” to “Business” as per the request of the current lawful owners of the subject erf.

The above are listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

As such the proponent appointed Stubenrauch Planning Consultants (SPC) to undertake an independent Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activities. The competent authority is the Ministry of Environment and Tourism: Department of Environmental Affairs (MET: DEA).

### **Project Description**

Erf 682, Nkurenkuru Extension 1 accommodates an existing building that was constructed before the proclamation of the town as well as a powerline that was running over the property but has now been moved. The removal of the powerline is what enabling the rezoning of the property from “Public Open Space” to “Business”.

The Nkurenkuru Town Council intends to permanently close Erf 682, Nkurenkuru Extension 1 as a “Public Open Space” and rezone it to “Business” in order to rectify and properly zone the land on which the existing building is accommodated. This re-planning exercise is only to formalize the existing situation on the ground since the property is currently zoned for “Public Open Space” purposes and is not appropriately zoned to be used for “Business” purposes, and as such, it is necessary to rectify the zoning to enable the owner of the existing building on Erf 682, Nkurenkuru Extension 1 to maximize on their property, by developing a structure for Business uses. By rezoning to Business, the proponent will have an opportunity to develop the existing building into business for the Proponent to generate an additional income.

The proposed rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business” will also enable the Nkurenkuru Town Council to generate additional revenue through rates and taxes. These funds can then be directed towards upgrading municipal service delivery and social facilities.

### **Public Participation**

Communication with I&APs about the proposed development was facilitated through the following means and in this order:

- A Background Information Document (BID) containing descriptive information about the proposed activities was compiled and sent out to all identified and registered I&APs via email on **02 February 2024**;
- Notices were placed in The New Era and The Namibian Newspaper dated **02 February 2024 and 09 February 2024**, briefly explaining the activity and its locality, inviting members of the public to register as I&APs (**Appendix B**); and
- Notices were fixed at the project site (**see Appendix A**).

The following comments were received during the initial comments period:

#### **1. Albertina Shatiwa a Town Planning officer (Nkurenkuru Town Council) via email**

- It is noted. Please be informed that the Dr. has moved out, therefore there will be no need to apply for consent for medical consulting rooms.
- This email serves as an official instruction for your office to proceed with the amendment of the rectification of the rezoning of Erf 682 Nkurenkuru Extension 1 from POS to Office, to read as "Business" instead of "Office" as debated earlier.

#### **2. Smut Matengu Matengu a Principal Engineering Assistant (Land & Servitudes) Wires Business, Transmission (Nampower) via email**

- NamPower has no comments or concerns regarding the proposed project. Additionally, there is currently no powerline infrastructure from NamPower existing in the area.

#### **3. Setson Nghidinwa (Property Lawful Owner)**

- The current lawful owners, of the property intends to make use of the said property for other development other than for medical consulting room.

Public consultation was carried out according to the Environmental Management Act's EIA Regulations. After the initial notification, the I&APs were given two weeks to submit their comments on the project (until **26 February 2024 and due to the public day, that was announced after, the public were given another extra day to comment until 27 February 2024**). The comment period will remain open until the final scoping report is submitted to MET.

The Draft Scoping Report was circulated from the **05 April 2024 until the 19 April 2024** so that the public could review and comment on it. The overall commentary received from the public on the draft report is documented in the comments and responses report document.

### **Conclusions and Recommendations**

With reference to **Table 7**, none of the negative construction phase impacts were deemed to have a high significance impact on the environment. The construction impacts were assessed to a **Medium to Low (negative)** significance, without mitigation measures. With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP, the significance of the construction phase impacts is likely to be reduced to a **Low (negative)**.

The most significant operational phase impact **medium (positive)** is the social impact. This is as a result of the potential job and economic opportunities during operation as well the increased development within the area.

It is recommended that this project be authorised because should the development not proceed the subject area will maintaining the current situation, whereby the subject erf will remain zoned for Public Open Space. As such, the proposed site would not be rezoned to be used for Business purposes. Thus, the residents will not benefit or be impacted by the Business activities proposed for the site. The rectification of zoning on Erf 682, Nkurenkuru Extension 1 will have a positive socio-economic impact on the new owner of the property, who will now have ownership of the land with the right zoning enabling them to operate their business. Potential job and economic opportunities may be available to the local people of Nkurenkuru during construction and operation. It will also allow Council to start collecting much needed rates and taxes on the property. The significance of the social impact was therefore deemed to be **Medium (positive)**.

The “no go” alternative was thus deemed to have a **High (negative)** impact, as all the benefits resulting from the development would not be realised.

The significance of negative impacts can be reduced with effective and appropriate mitigation provided in this report and the EMP. If authorised, the implementation of an EMP should be included as a condition of approval.

## TABLE OF CONTENTS

<b>1</b>	<b>INTRODUCTION .....</b>	<b>1</b>
1.1	<b>PROJECT BACKGROUND.....</b>	<b>1</b>
1.2	<b>PROJECT LOCATION, SIZE, ZONING AND OWNERSHIP.....</b>	<b>2</b>
1.3	<b>TERMS OF REFERENCE AND SCOPE OF PROJECT .....</b>	<b>4</b>
1.4	<b>ASSUMPTIONS AND LIMITATIONS .....</b>	<b>4</b>
1.5	<b>CONTENT OF ENVIRONMENTAL ASSESSMENT REPORT .....</b>	<b>4</b>
<b>2</b>	<b>LEGAL FRAMEWORK.....</b>	<b>7</b>
2.1	<b>LEGISLATION RELEVANT TO THE PROPOSED DEVELOPMENT.....</b>	<b>7</b>
<b>3</b>	<b>ENVIRONMENTAL BASELINE DESCRIPTION .....</b>	<b>13</b>
3.1	<b>SOCIAL ENVIRONMENT.....</b>	<b>13</b>
3.1.1	Socio-Economic Context.....	13
3.1.2	Archaeological and Heritage Context .....	14
3.2	<b>BIO-PHYSICAL ENVIRONMENT .....</b>	<b>14</b>
3.2.1	Climate .....	14
3.2.2	Topography, Geology and Soils.....	15
3.2.3	Hydrology and Hydrogeology .....	16
3.3	<b>TERRESTRIAL ECOLOGY.....</b>	<b>17</b>
3.3.1	Flora and Fauna .....	17
<b>4</b>	<b>PROJECT DESCRIPTION .....</b>	<b>19</b>
4.1	<b>PROJECT COMPONENTS.....</b>	<b>19</b>
4.2	<b>ALTERNATIVES .....</b>	<b>19</b>
4.2.1	No – Go Alternative .....	19
4.3	<b>THE PROPOSED DEVELOPMENT .....</b>	<b>19</b>
4.3.1	Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “Public Open Space”...20	
4.3.2	Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Office” .23	
4.3.3	Engineering Services and Access Provision.....	24
<b>5</b>	<b>PUBLIC PARTICIPATION PROCESS.....</b>	<b>26</b>
5.1	<b>PUBLIC PARTICIPATION REQUIREMENTS .....</b>	<b>26</b>
5.1.1	Environmental Assessment Phase 2 .....	26
<b>6</b>	<b>ASSESSMENT METHODOLOGY .....</b>	<b>27</b>
6.1	<b>MITIGATION MEASURES .....</b>	<b>29</b>
<b>7</b>	<b>ASSESSMENT OF POTENTIAL IMPACTS AND POSSIBLE MITIGATION MEASURES .....</b>	<b>31</b>
7.1	<b>INTRODUCTION.....</b>	<b>31</b>
7.2	<b>PLANNING AND DESIGN PHASE IMPACTS .....</b>	<b>31</b>
7.2.1	Traffic Impacts.....	31
7.3	<b>CONSTRUCTION PHASE IMPACTS ON THE BIOPHYSICAL ENVIRONMENT .....</b>	<b>31</b>
7.3.1	Flora and Fauna Impacts (Biodiversity) .....	31

7.3.2	Surface and Ground Water Impacts.....	32
7.3.3	Soil Erosion Impacts .....	32
<b>7.4</b>	<b>CONSTRUCTION PHASE IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT.....</b>	<b>32</b>
7.4.1	Heritage impacts .....	32
7.4.2	Health, Safety and Security Impacts .....	32
7.4.3	Traffic Impacts.....	32
7.4.4	Noise Impacts.....	32
7.4.5	Dust and Emission Impacts.....	33
7.4.6	Municipal Services .....	33
7.4.7	Storage and Utilisation of Hazardous Substances.....	33
<b>7.5</b>	<b>OPERATIONAL PHASE IMPACTS.....</b>	<b>33</b>
7.5.1	Visual and Sense of Place Impacts.....	33
7.5.2	Noise Impacts.....	33
7.5.3	Emission Impacts .....	34
7.5.4	Social Impacts .....	34
<b>7.6</b>	<b>CUMULATIVE IMPACTS .....</b>	<b>34</b>
<b>7.1</b>	<b>ENVIRONMENTAL MANAGEMENT PLAN.....</b>	<b>34</b>
<b>7.2</b>	<b>SUMMARY OF POTENTIAL IMPACTS .....</b>	<b>34</b>
<b>8</b>	<b>CONCLUSION.....</b>	<b>46</b>
<b>8.1</b>	<b>CONSTRUCTION PHASE IMPACTS .....</b>	<b>46</b>
<b>8.2</b>	<b>OPERATIONAL PHASE .....</b>	<b>46</b>
<b>8.3</b>	<b>LEVEL OF CONFIDENCE IN ASSESSMENT .....</b>	<b>46</b>
<b>8.4</b>	<b>MITIGATION MEASURES .....</b>	<b>46</b>
<b>8.5</b>	<b>OPINION WITH RESPECT TO THE ENVIRONMENTAL AUTHORISATION .....</b>	<b>47</b>
<b>8.6</b>	<b>WAY FORWARD .....</b>	<b>47</b>
<b>9</b>	<b>REFERENCES.....</b>	<b>48</b>

## LIST OF FIGURES

Figure 1: Locality of Erf 682, Nkurenkuru Extension 1.....	3
Figure 2: EIA flow Diagram.....	12
Figure 3: Annual average temperature.....	14
Figure 4: Average annual Rainfall .....	15
Figure 5: Geology of Namibia.....	16
Figure 6: Hydrography of Namibia.....	17
Figure 7: Biomes of Namibia .....	18
Figure 8: Permanent Closure of Erf 682, Nkurenkuru Extension 1 (Public Open Space).....	21
Figure 9: Areal map of Erf 682, Nkurenkuru Extension 1 .....	22
Figure 10: Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Office” .....	23
Figure 11: Surrounding land uses. ....	24
Figure 12: Mitigation Hierarchy .....	29

## LIST OF TABLES

Table 1: List of triggered activities identified in the EIA Regulations which apply to the proposed project.....	1
Table 2: Contents of the Scoping / Environmental Assessment Report.....	4
Table 3: Legislation applicable to the proposed development.....	7
Table 4: Statistics of the Kavango West Region (Namibia Statistics Agency, 2011) .....	13
Table 5: Table of Public Participation Activities.....	26
Table 6: Impact Assessment Criteria.....	27
Table 7: Summary of the significance of the potential impacts .....	35
Table 8: Proposed mitigation measures for the construction phase.....	40
Table 9: Proposed mitigation measures for the operational phase .....	45

## LIST OF ANNEXURES

<b>Annexure A:</b>	Proof of Site Notices/ Posters
<b>Annexure B:</b>	Proof of Advertisements
<b>Annexure C:</b>	Public Participation process I&AP Database & Registered List Notification Letters and Emails sent of BID Notification Letters and Emails sent of DESR Comments and Response Report (if any comments)
<b>Annexure D:</b>	Consent Letter
<b>Annexure E:</b>	Curriculum Vitae and ID of Environmental Assessment Practitioner
<b>Annexure F:</b>	Environmental Management Plan



## LIST OF ACRONYMS

<b>AIDS</b>	Acquired Immune Deficiency Syndrome
<b>CRR</b>	Comments and response report
<b>dB</b>	Decibels
<b>DESR</b>	Draft Environmental Scoping Report
<b>EA</b>	Environmental Assessment
<b>EAP</b>	Environmental Assessment Practitioner
<b>EAR</b>	Environmental Assessment Report
<b>ECC</b>	Environmental Clearance Certificate
<b>ECO</b>	Environmental Control Officer
<b>EIA</b>	Environmental Impact Assessment
<b>EMA</b>	Environmental Management Act
<b>EMP</b>	Environmental Management Plan
<b>FESR</b>	Final Environmental Scoping Report
<b>GTZ</b>	Gesellschaft für Technische Zusammenarbeit
<b>HIV</b>	Human Immunodeficiency Virus
<b>I&amp;AP</b>	Interested and Affected Party
<b>IUCN</b>	International Union for Conservation of Nature
<b>MET</b>	Ministry of Environment and Tourism
<b>MET: DEA</b>	Ministry of Environment and Tourism: Department of Environmental Affairs
<b>MURD</b>	Ministry of Urban and Rural Development
<b>MWTC</b>	Ministry of Works Transport and Communication
<b>NAMPAB</b>	Namibia Planning Advisory Board
<b>NPC</b>	Namibia Planning Commission
<b>NTC</b>	Nkurenkuru Town Council
<b>PPP</b>	Public Participation Process
<b>SADC</b>	Southern African Development Community
<b>SPC</b>	Stubenrauch Planning Consultants
<b>USAID</b>	United States Agency for International Development
<b>VMMC</b>	Voluntary Medical Male Circumcision

# 1 INTRODUCTION

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## 1.1 PROJECT BACKGROUND

The Nkurenkuru Town Council hereinafter referred to as the proponent intends to undertake the following activities:

- **Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “public Open Space”.**
- **Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business”.**

The above are listed activities in terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012).

In terms of the Environmental Management Act (No. 7 of 2007) and Environmental Impact Assessment Regulations (Government Notice No. 30 of 2012), the following listed activities in **Table 1** were triggered by the proposed project:

**Table 1:** List of triggered activities identified in the EIA Regulations which apply to the proposed project

<b>Activity description and No(s):</b>	<b>Description of relevant Activity</b>	<b>The portion of the development as per the project description that relates to the applicable listed activity</b>
Activity 5.1 (d)	The rezoning of land from use for nature conservation or zoned open space to any other land use.	The proposed development involves the rezoning of land from Public Open Space.

The above activities will be discussed in more detail in Chapter 4. The proponent appointed Stubenrauch Planning Consultants (SPC) to undertake an independent Environmental Assessment (EA) in order to obtain an Environmental Clearance Certificate (ECC) for the above activities. The competent authority is the Ministry of Environment and Tourism: Department of Environmental Affairs (MET: DEA).

The process will be undertaken in terms of the gazetted Namibian Government Notice No. 30 Environmental Impact Assessment Regulations (herein referred to as EIA Regulations) and the Environmental Management Act (No 7 of 2007) (herein referred to as the EMA). The EIA process will investigate if there are any potential significant bio-physical and socio-economic impacts associated with the intended activities. The EIA process would also serve to provide an opportunity for the public and key stakeholders to provide comments and participate in the process.

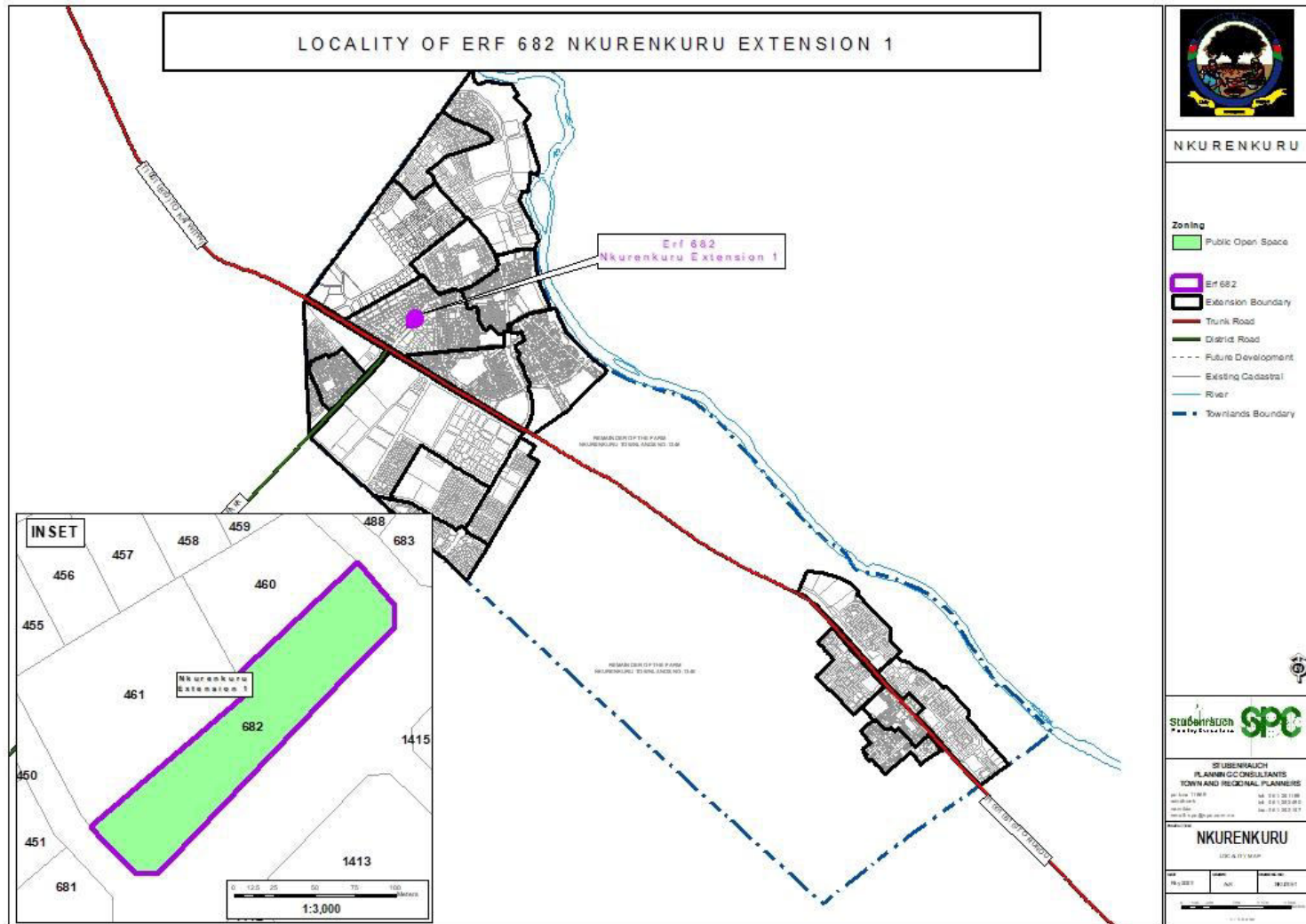
## **1.2 PROJECT LOCATION, SIZE, ZONING AND OWNERSHIP**

Erf 682 is situated in the neighbourhood of Nkurenkuru Extension 1, as depicted in **Figure 1** below and it measures **10379m<sup>2</sup>** in extent.

According to the Township Establishment Conditions, Erf 682, Nkurenkuru Extension 1 is reserved for “Public Open Space” purposes. Erf 682, Nkurenkuru Extension 1 is located in an area with erven that are zoned for different mixed land uses such as “Public Open Space”, “Light Industrial”, “Local Authority” and “Business” purposes.

According to Certificate of Registered Title No. 421/2012, ownership of Erf 682, Nkurenkuru Extension 1 vests with the Nkurenkuru Town Council.

Erf 682, Nkurenkuru Extension 1 which is to be rezoned from “Public Open Space” to “Business”, currently accommodates an existing building with a few trees and shrubs as depicted in **Figure 9**.



**Figure 1:** Locality of Erf 682, Nkurenkuru Extension 1

### 1.3 TERMS OF REFERENCE AND SCOPE OF PROJECT

The scope of this project is limited to conducting an environmental impact assessment and applying for an Environmental Clearance Certificate for the following as indicated in section 1.1 above:

- **Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “public Open Space”.**
- **Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business” Purposes.**

### 1.4 ASSUMPTIONS AND LIMITATIONS

In undertaking this investigation and compiling the Environmental Scoping Report, the following assumptions and limitations apply:

- Assumes the information provided by the proponent is accurate and discloses all information available.
- The limitation that no alternative except for the preferred layout plans and the ‘no-go’ option was considered during this assessment. The unique character and appeal of Nkurenkuru were however taken into consideration with the design perspective. Various layout alternatives were initially considered by the proponent, also taking terrain and environmental constraints into account, thus the current design plans being the most feasible result.

### 1.5 CONTENT OF ENVIRONMENTAL ASSESSMENT REPORT

Section 8 of the gazetted EIA Regulations requires specific content to be addressed in a Scoping / Environmental Assessment Report. **Table 2** below is an extract from the EMA and highlights the required contents of a Scoping / Environmental Assessment Report whilst assisting the reader to find the relevant section in the report.

**Table 2:** Contents of the Scoping / Environmental Assessment Report

Section	Description	Section of FESR/ Annexure
8 (a)	The curriculum vitae of the EAPs who prepared the report;	Refer to <b>Annexure E</b>
8 (b)	A description of the proposed activity;	Refer to Chapter 4
8 (c)	A description of the site on which the activity is to be undertaken and the location of the activity on the site;	Refer to Chapter 3
8 (d)	A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and	Refer to Chapter 3

Section	Description	Section of FESR/ Annexure
	cultural aspects of the environment may be affected by the proposed listed activity;	
8 (e)	An identification of laws and guidelines that have been considered in the preparation of the scoping report;	Refer to Chapter 2
8 (f)	Details of the public consultation process conducted in terms of regulation 7(1) in connection with the application, including	Refer to Chapter 5
	(i) the steps that were taken to notify potentially interested and affected parties of the proposed application	Refer to Chapter 5
	(ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given;	Refer to <b>Annexures A and B</b> for site notices and advertisements respectively.
	(iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application;	Refer to <b>Annexure C</b>
	(iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues;	Refer to <b>Annexure C</b>
8 (g)	A description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity;	Refer to Chapter 4
8 (h)	A description and assessment of the significance of any significant effects,	Refer to Chapter 7

Section	Description	Section of FESR/ Annexure
	including cumulative effects, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity;	
8 (i)	terms of reference for the detailed assessment;	NB – Assessment of impacts are included in this EA Report
8 (j)	An environmental management plan	Refer to <b>Annexure F</b>

## 2 LEGAL FRAMEWORK

### 2.1 LEGISLATION RELEVANT TO THE PROPOSED DEVELOPMENT

There are multiple legal instruments that regulate and have a bearing on good environmental management in Namibia. **Table 3** below provides a summary of the legal instruments considered to be relevant to this development and the environmental assessment process.

**Table 3:** Legislation applicable to the proposed development

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
The Constitution of the Republic of Namibia as Amended	Article 91 (c) provides for duty to guard against “the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.”  Article 95(l) deals with the “maintenance of ecosystems, essential ecological processes and biological diversity” and sustainable use of the country’s natural resources.	Sustainable development should be at the forefront of this development.
Environmental Management Act No. 7 of 2007 (EMA)	Section 2 outlines the objective of the Act and the means to achieve that.  Section 3 details the principle of Environmental Management	The development should be informed by the EMA.
EIA Regulations GN 28, 29, and 30 of EMA (2012)	GN 29 Identifies and lists certain activities that cannot be undertaken without an environmental clearance certificate.  GN 30 provides the regulations governing the environmental assessment (EA) process.	<b>Activity 5.1 (d) Infrastructure</b> The rezoning of land from use for nature conservation or zoned open space to any other land use.
Convention on Biological Diversity (1992)	Article 1 lists the conservation of biological diversity amongst the objectives of the convention.	The project should consider the impact it will have on the biodiversity of the area.
Draft Procedures and Guidelines for conducting EIAs and compiling EMPs (2008)	Part 1, Stage 8 of the guidelines states that if a proposal is likely to affect people, certain guidelines should be considered by the proponent in the scoping process.	The EA process should incorporate the aspects outlined in the guidelines.



LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Namibia Vision 2030	Vision 2030 states that the solitude, silence and natural beauty that many areas in Namibia provide are becoming sought after commodities and must be regarded as valuable natural assets.	Care should be taken that the development does not lead to the degradation of the natural beauty of the area.
Water Act No. 54 of 1956	Section 23(1) deals with the prohibition of pollution of underground and surface water bodies.	The pollution of water resources should be avoided during construction and operation of the development.
The Ministry of Environment and Tourism (MET) Policy on HIV & AIDS	MET has recently developed a policy on HIV and AIDS. In addition, it has also initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.	The proponent and its contractor have to adhere to the guidelines provided to manage the aspects of HIV/AIDS. Experience with construction projects has shown that a significant risk is created when migrant construction workers interact with local communities.
Township and Division of Land Ordinance 11 of 1963	The Townships and Division of Land Ordinance regulates subdivisions of portions of land falling within a Local Authority area	In terms of Section 19 such applications are to be submitted to NAMPAB and Townships Board respectively.
Urban and Regional Planning Act No. 5 of 2018	Chapter 7 deals with the Subdivision or Consolidation of Land.	The development must comply with the provision of the act.
Local Authorities Act No. 23 of 1992	The Local Authorities Act prescribes the manner in which a town or municipality should be managed by the Town or Municipal Council.	The development has to comply with provisions of the Local Authorities Act.
Labour Act no. 11 of 2007	Chapter 2 details the fundamental rights and protections. Chapter 3 deals with the basic conditions of employment.	Given the employment opportunities presented by the development, compliance with the labour law is essential.
National Heritage Act No. 27 of 2004	The Act is aimed at protecting, conserving and registering places and objects of heritage significance.	All protected heritage resources (e.g. human remains etc.) discovered, need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before they

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
		may be relocated.
Roads Ordinance 17 of 1972	<ul style="list-style-type: none"> <li>• Section 3.1 deals with width of proclaimed roads and road reserve boundaries</li> <li>• Section 27.1 is concerned with the control of traffic on urban trunk and main roads</li> <li>• Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads</li> <li>• Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.</li> </ul>	Adhere to all applicable provisions of the Roads Ordinance.
Public and Environmental Health Act of 2015	This Act (GG 5740) provides a framework for a structured uniform public and environmental health system in Namibia. It covers notification, prevention and control of diseases and sexually transmitted infections; maternal, ante-natal and neo-natal care; water and food supplies; infant nutrition; waste management; health nuisances; public and environmental health planning and reporting. It repeals the Public Health Act 36 of 1919 (SA GG 979).	Contractors and users of the proposed development are to comply with these legal requirements.
Nature Conservation Ordinance no. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants have to be managed within the legal confines.
Water Quality Guidelines for Drinking Water and Wastewater Treatment	Details specific quantities in terms of water quality determinants, which wastewater should be treated to before being discharged into the environment (see Appendix B).	These guidelines are to be applied when dealing with water and waste treatment

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
Environmental Assessment Policy of Namibia (1995)	The Policy seeks to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.	This EIA considers this term of Environment.
Water Resources Management Act No. 11 of 2013	Part 12 deals with the control and protection of groundwater  Part 13 deals with water pollution control	The pollution of water resources should be avoided during construction and operation of the development. Should water need to be abstracted, a water abstraction permit will be required from the Ministry of Water, Agriculture and Forestry.
Forest Act 12 of 2001 and Forest Regulations of 2015	To provide for the establishment of a Forestry Council and the appointment of certain officials; to consolidate the laws relating to the management and use of forests and forest produce; to provide for the protection of the environment and the control and management of forest fires; to repeal the Preservation of Bees and Honey Proclamation, 1923 (Proclamation No. 1 of 1923), Preservation of Trees and Forests Ordinance, 1952 (Ordinance No. 37 of 1952) and the Forest Act, 1968 (Act No. 72 of 1968); and to deal with incidental matters.	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may not be removed without a permit from the Ministry of Agriculture, Water and Forestry.
Atmospheric Pollution Prevention Ordinance No 45 of 1965	Part II - control of noxious or offensive gases,  Part III - atmospheric pollution by	The development should consider the provisions outlined in the act. The proponent should apply for an Air Emissions permit from the

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	smoke, Part IV - dust control, and Part V - air pollution by fumes emitted by vehicles.	Ministry of Health and Social Services (if needed).
Hazardous Substance Ordinance 14 of 1974	To provide for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; to provide for the division of such substances into groups in relation to the degree of danger; to provide for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances; and to provide for matters connected therewith.	The handling, usage and storage of hazardous substances on site should be carefully controlled according to this Ordinance.
Soil Conservation Act No 76 of 1969	Act to consolidate and amend the law relating to the combating and prevention of soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of the water sources	The proposed activity should ensure that soil erosion and soil pollution is avoided during construction and operation.

This EIA process will be undertaken in accordance with the EIA Regulations. A Flow Diagram (refer to **Figure 2** below) provides an outline of the EIA process to be followed.

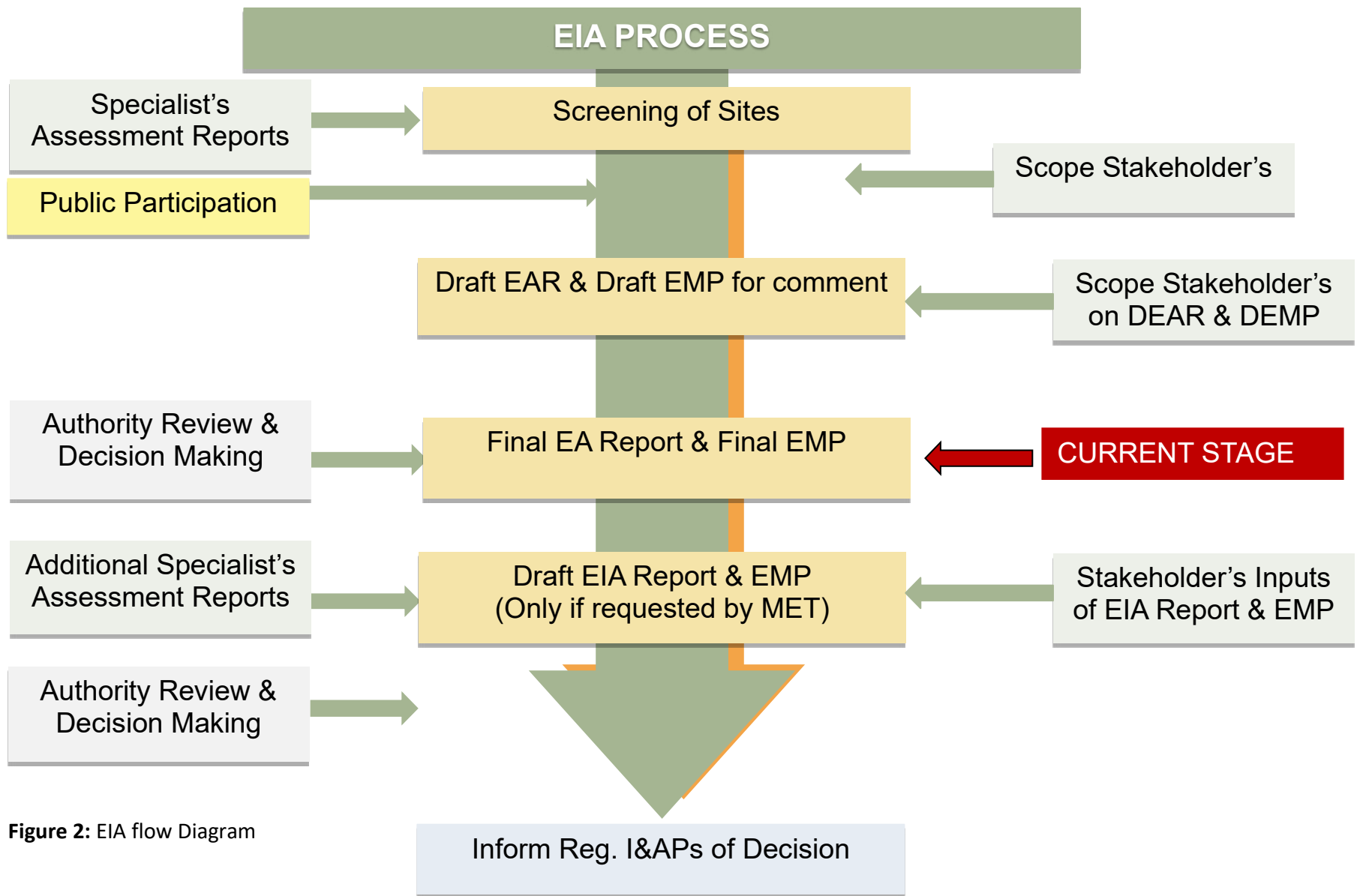


Figure 2: EIA flow Diagram

### 3 ENVIRONMENTAL BASELINE DESCRIPTION

#### 3.1 SOCIAL ENVIRONMENT

##### 3.1.1 Socio-Economic Context

The statistics shown in **Table 4** below are derived from the 2011 Namibia Population and Housing Census (Namibia Statistics Agency, 2013), and presented from a local and regional perspective.

**Table 4:** Statistics of the Kavango West Region (Namibia Statistics Agency, 2011)

KAVANGO REGION	
ATTRIBUTE	INDICATOR
Population	223 352
Females	96 559
Males	80 115
Population under 5 years	12%
Population aged 5 to 14 years	21%
Population aged 15 to 59 years	59%
Population aged 60 years and above	8%
Female: male ratio	83:100
Literacy rate of 15 years old and above	96%
People above 15 years who have never attended school	7%
People above 15 years who are currently attending school	21%
People above 15 years who have left school	68%
People aged 15 years and above who belong to the labour force	61%
Unemployment rate	37%
Homemakers	6%
Students	62%
Retired or old age income recipients	32%
Income from pension	19%
Income from business and non-farming activities	17%
Income from farming	13%
Income from cash remittance	5%
Wages and salaries	40%
Main Language	Oshiwambo
KAVANGO WEST REGION	
ATTRIBUTE	INDICATOR
Population	86,529
Literacy rate	77.3%
Unemployment rate	25%

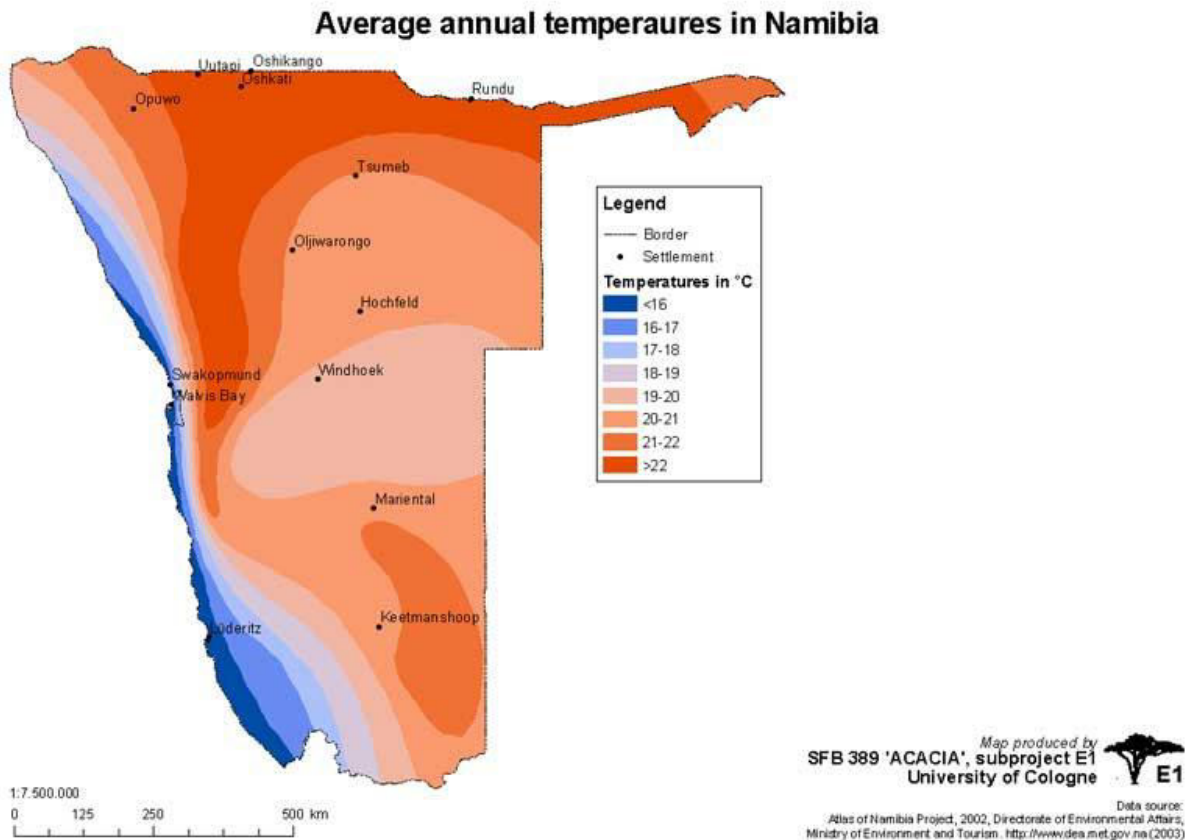
### 3.1.2 Archaeological and Heritage Context

The archeological importance of the Kavango West Region is poorly known, however archaeological sites are believed to be concentrated along the Kavango River and the intermediate interior, in a ribbon no more than 5km wide (Ministry of Lands and Resettlement, 2015). The subject site is not known to be of any historical significance. No significant archaeological and heritage sites are known to be located within the proposed development area.

## 3.2 BIO-PHYSICAL ENVIRONMENT

### 3.2.1 Climate

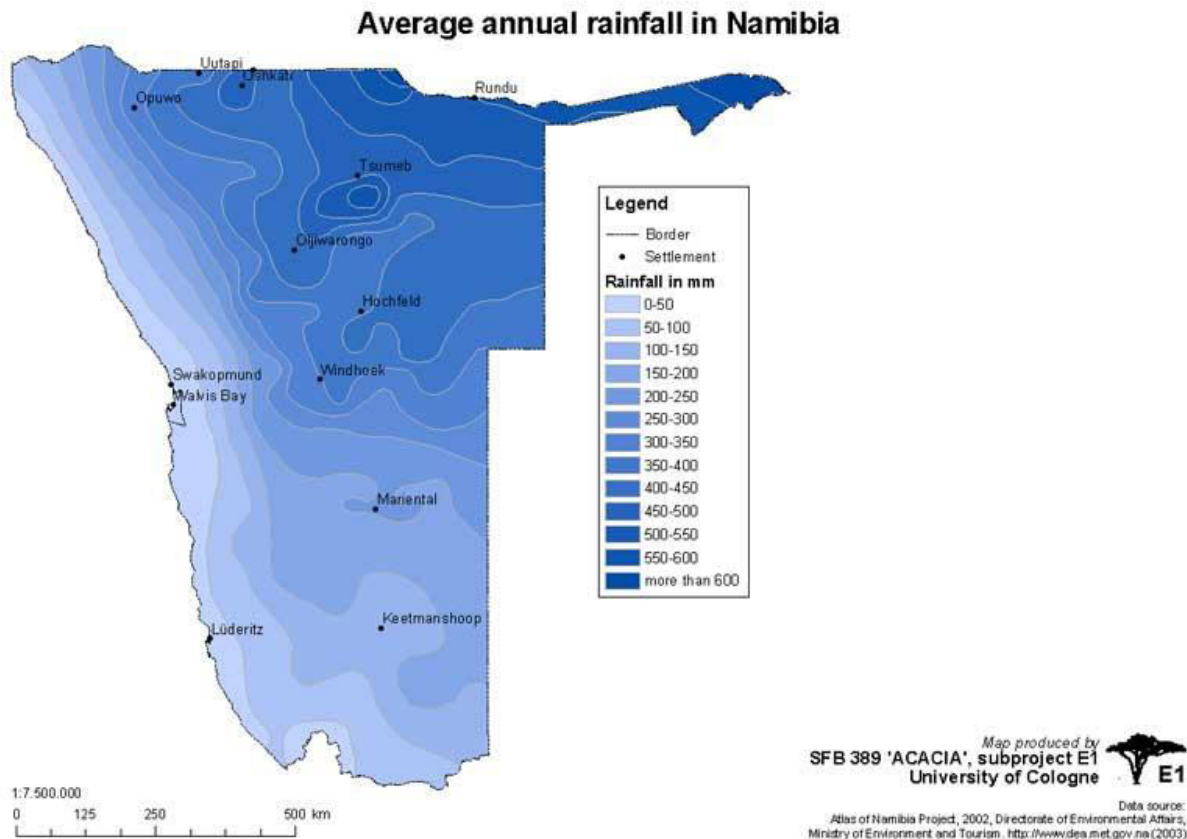
The Kavango West Region is generally warm to hot. The average annual temperature ranges above 22°C as indicated in **Figure 3** below. The average maximum temperature for Nkurenkuru varies between less than 34 and 36°C with the average minimum temperature between 6 and 8°C.



**Figure 3:** Annual average temperature

( Source: [http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/e1\\_download\\_climate\\_e.htm#temperature annua](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_climate_e.htm#temperature_anua) l)

The Kavango West Region experiences higher rainfall than other parts of the country. Rainfall in the region falls during the summer months between October/November to March/April. Average annual rainfall for Nkurenkuru is ranges between 500 to 550 mm per year as indicated in **Figure 4** below.



**Figure 4: Average annual Rainfall**

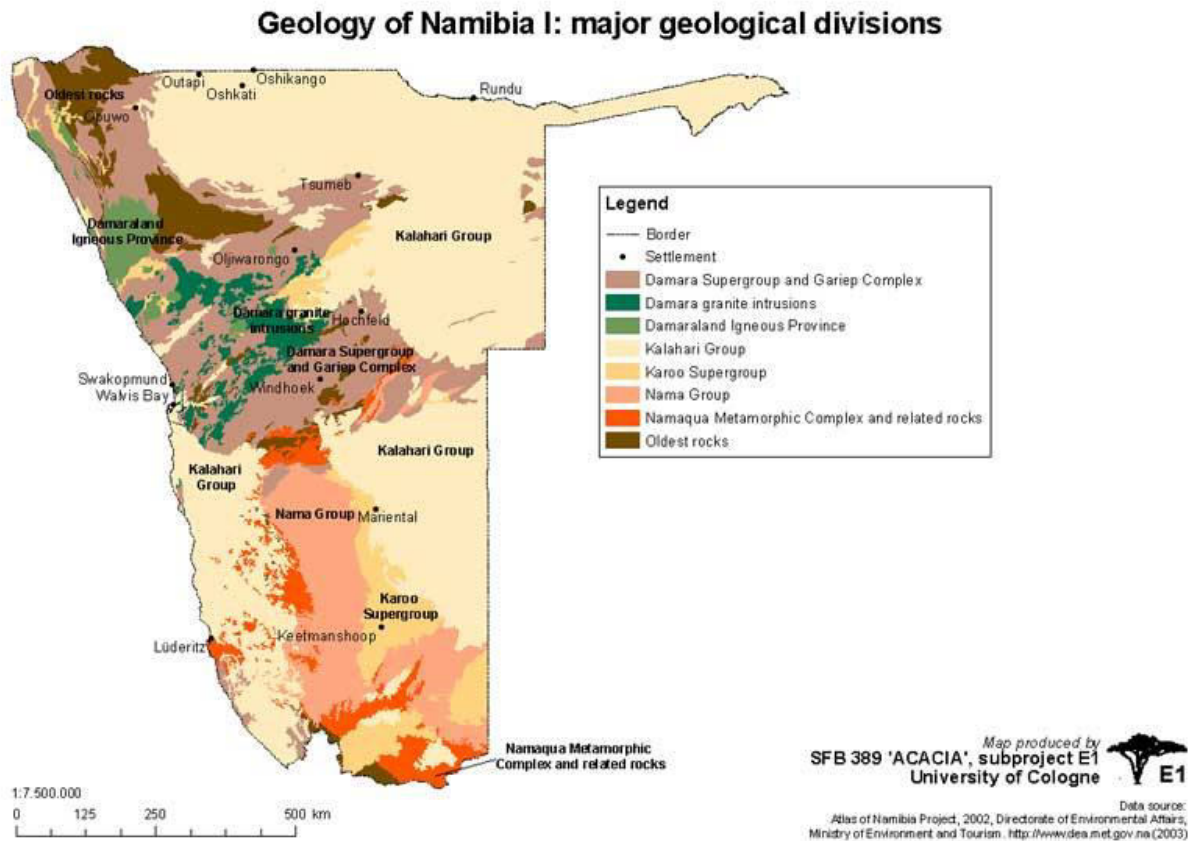
(Source: [http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/pics/climate/rainfall-annual.jpg](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/climate/rainfall-annual.jpg))

### 3.2.2 Topography, Geology and Soils

The Kavango West Region consists of gently undulating plains of consolidated sands, sloping gradually down northwards to the Kavango River and eastwards to the lowest areas along the river before it enters Botswana (Ministry of Lands and Resettlement, 2015). The geology of the Kavango West Region falls within the Kalahari Group geological division as depicted in **Figure 5** below. The



rock type for the region is described as the Kalahari and Namib sands with sands being the dominant soils (Mendelsohn, Jarvis, Roberts & Roberston, 2002).



**Figure 5: Geology of Namibia**

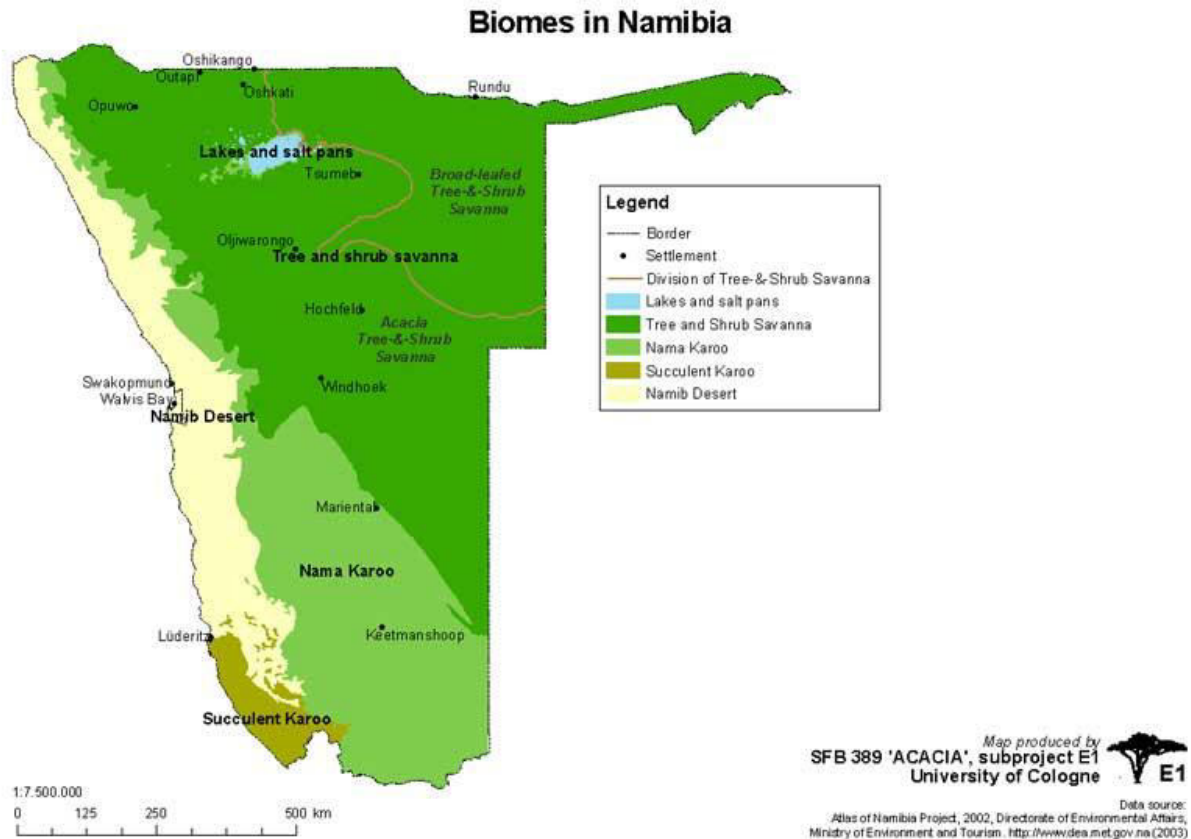
(Source: [http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/pics/physical/geology.jpg](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/geology.jpg))

### 3.2.3 Hydrology and Hydrogeology

The most important feature in the region is the perennial Kavango river. The river is the major source of water for rural communities that are concentrated along it. Water is also abstracted to supply Nkurenkuru and smaller towns and agricultural schemes.

The flat landscape and high permeability of the sandy soil provides very little surface water drainage. As such flooding could potentially occur during high rain events. However, water rarely collects and flows in some of the shallow riverbeds. If they do it is often short-lived due to the vegetation and sediments in the river courses (Ministry of Lands and Resettlement, 2015).





**Figure 7:** Biomes of Namibia

([http://www.uni-koeln.de/sfb389/e/e1/download/atlas\\_namibia/pics/living\\_resources/biomes.jpg](http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/living_resources/biomes.jpg))

Much of the wildlife that used to occur along the Kavango River has now disappeared because so much of the natural vegetation has been cleared (Mendelsohn, 2009). The less inhabited parts of the Kavango West Region host a little wildlife – mammal species such as steenbok, kudu and warthog – but has some important conservation areas where key wildlife species occur.

The subject area has previously been disturbed and can therefore not be classified as pristine. The intended development is located within the Nkurenkuru Townlands on land which has been earmarked for urban development within the town of Nkurenkuru. The site is thus suitable for urban development.

## 4 PROJECT DESCRIPTION

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### 4.1 PROJECT COMPONENTS

As previously outlined in Section 1.1, the proposed project involves the following activities:

- **Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “public Open Space”.**
- **Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business”.**

These components will be described in further detail below, in terms of their design, layout and footprint.

### 4.2 ALTERNATIVES

As pointed out in Section 1.4 above various layout alternatives were initially considered by the proponent, ultimately resulting in the final layouts.

#### 4.2.1 No – Go Alternative

The no-go alternative is the baseline against which all alternatives are assessed. The no-go alternative would essentially entail maintaining the current situation, whereby the subject erf will remain zoned for Public Open Space. As such, the proposed site would not be rezoned to be used for Business purposes. Thus, the residents will not benefit or be impacted by the Business activities proposed for the site. Thus, the no-go alternative is not considered to be the preferred option.

### 4.3 THE PROPOSED DEVELOPMENT

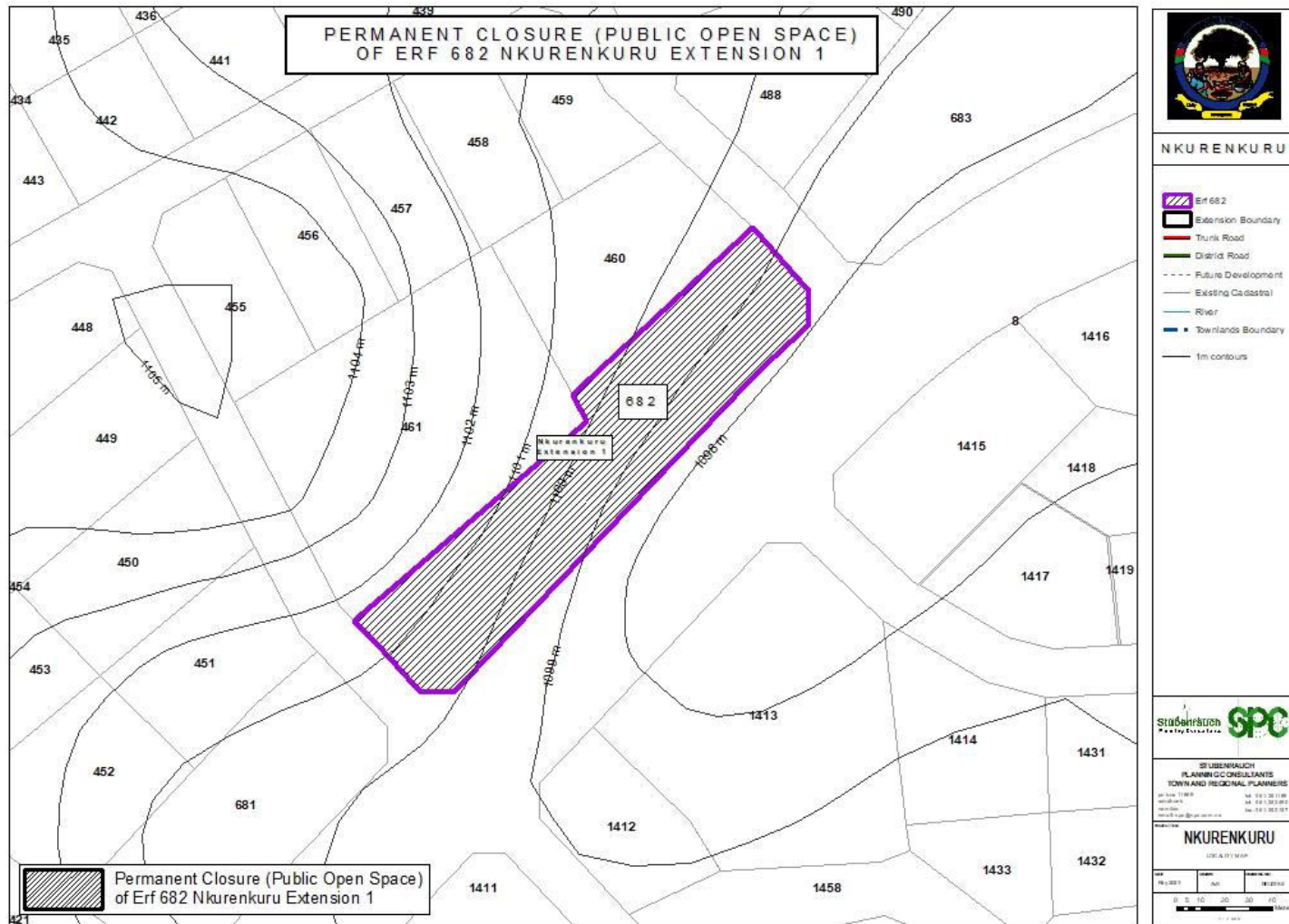
Erf 682, Nkurenkuru Extension 1 accommodates an existing building that was constructed before the proclamation of the town as well as a powerline that was running over the property but has now been moved. The removal of the powerline is what enabling the rezoning of the property from “Public Open Space” to “Business”.

The Nkurenkuru Town Council intends to permanently close Erf 682, Nkurenkuru Extension 1 as a “Public Open Space” and rezone it to “Business” in order to rectify and properly zone the land on which the existing building is accommodated as depicted on **Figure 9**. This re-planning exercise is only to formalize the existing situation on the ground since the property is currently zoned for “Public Open Space” purposes and is not appropriately zoned to be used for “Business” purposes, and as such, it is necessary to rectify the zoning to enable the owner of the existing building on Erf 682, Nkurenkuru Extension 1 to maximize on their property, by developing a structure for Business uses. By rezoning to Business, the proponent will have an opportunity to develop the existing building into business for the Proponent to generate an additional income.

The proposed rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Business” will also enable the Nkurenkuru Town Council to generate additional revenue through rates and taxes. These funds can then be directed towards upgrading municipal service delivery and social facilities.

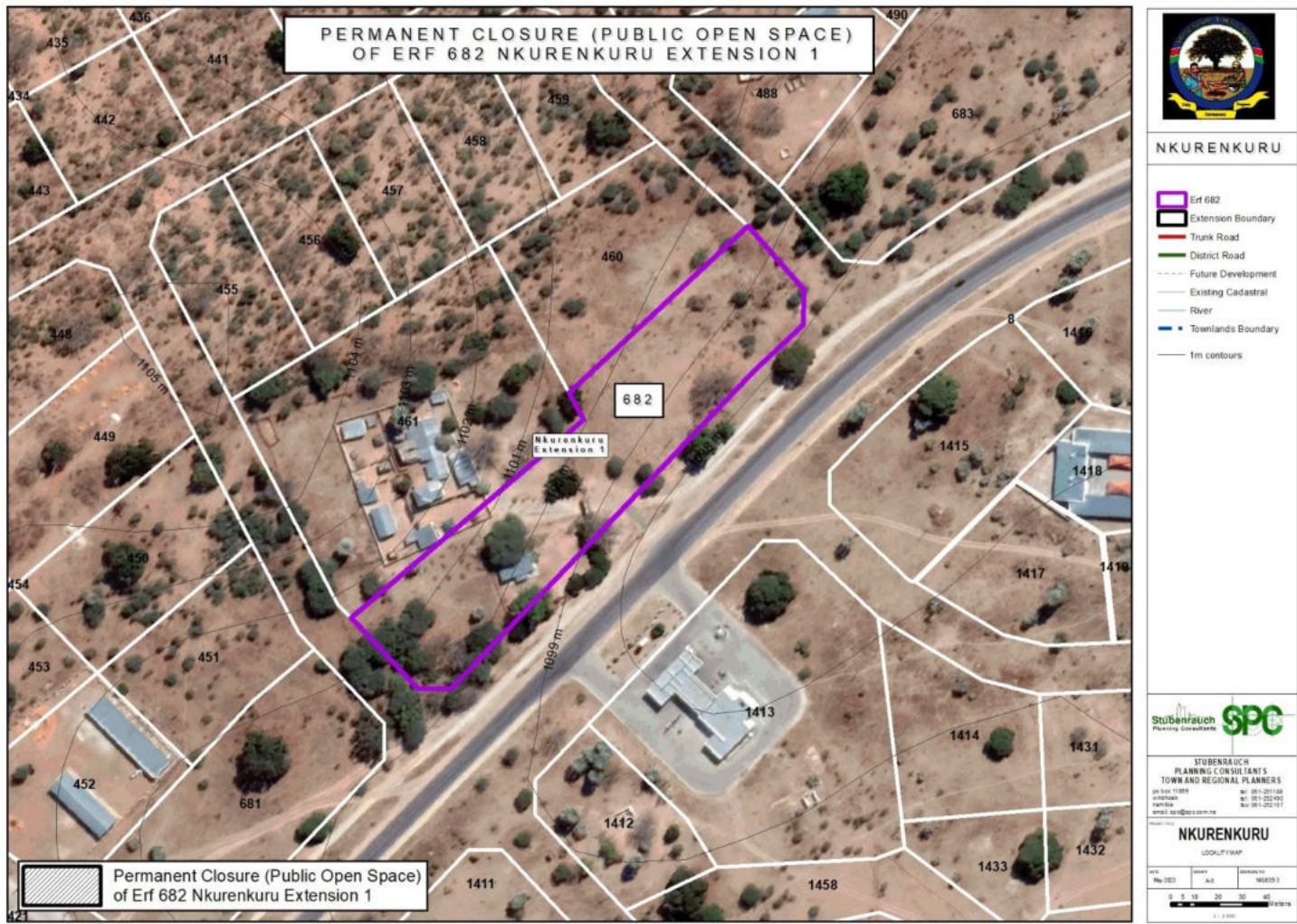
#### **4.3.1 Permanent Closure of Erf 682, Nkurenkuru Extension 1 as a “Public Open Space”**

As depicted in **Figure 8 and 9** below, Erf 682 Nkurenkuru (measuring 10379 m<sup>2</sup>) is to be closed as a “Public Open Space”.



**Figure 8:** Permanent Closure of Erf 682, Nkurenkuru Extension 1 (Public Open Space)

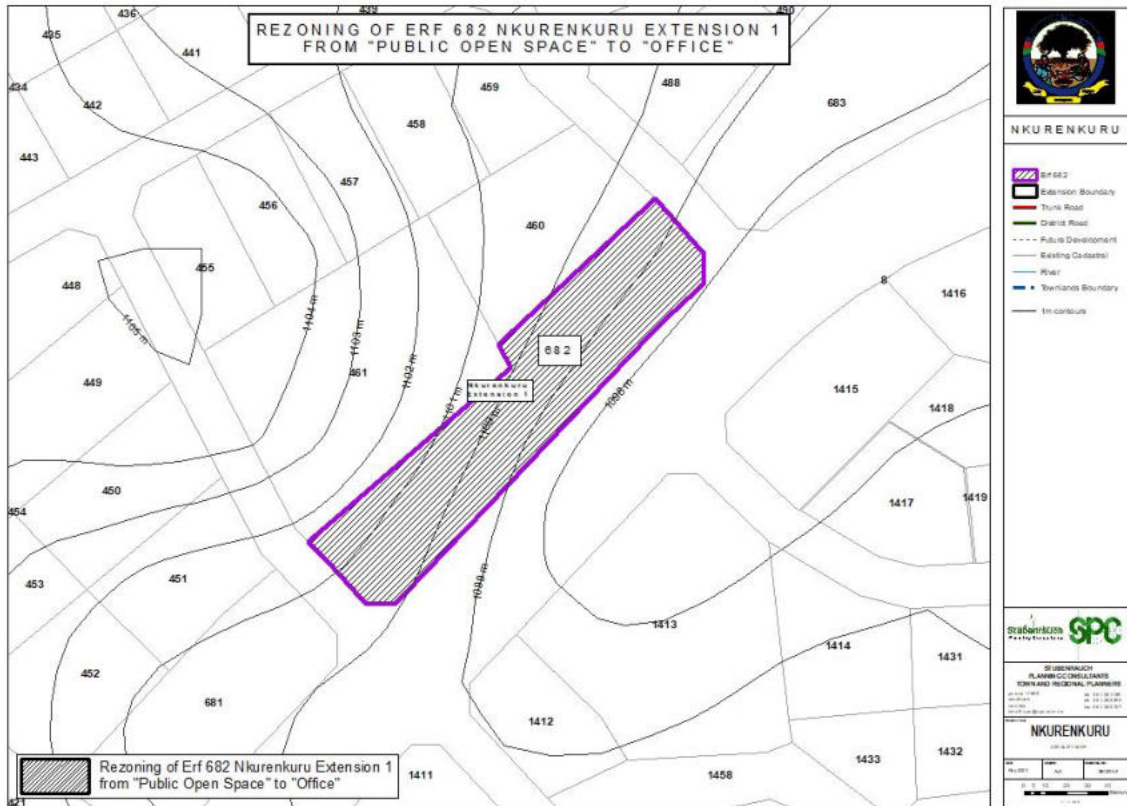




**Figure 9:** Areal map of Erf 682, Nkurenkuru Extension 1

### 4.3.2 Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Office”

As depicted in **Figure 10** below Erf 682, Nkurenkuru Extension 1 is to be rezoned from “Public Open Space” to “Business” in order to operate a business on the subject erf.



**Figure 10:** Rezoning of Erf 682, Nkurenkuru Extension 1 from “Public Open Space” to “Office”



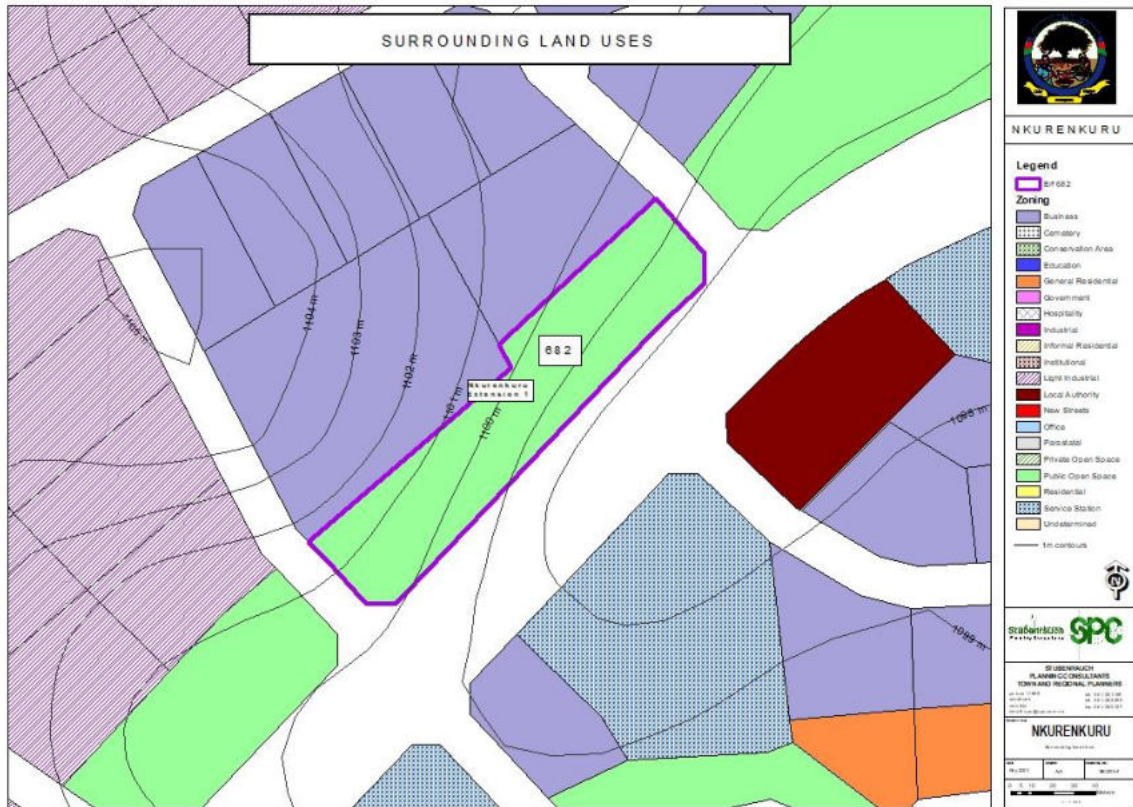


Figure 11: Surrounding land uses.

4.3.3 Engineering Services and Access Provision

Electricity, Water, and sewer

Erf 682, Nkurenkuru is already connected to NORED’s distribution grid which currently provides electrical power to Nkurenkuru. Any additional connection to be required will be done in accordance with the standards and requirements of NORED.

Erf 682, Nkurenkuru Extension 1 is already connected to the reticulation system of water and sewer of the Nkurenkuru Town Council. Therefore, the rezoned erf will retain these connections and any additional connection is to be made in accordance with the engineering standards and requirements of Nkurenkuru Town Council

### **Storm Water**

The storm water on Erf 682, Nkurenkuru Extension 1 follows the natural drainage paths on site. Further measure necessary to manage the storm water within the area are to be employed in accordance with the Nkurenkuru Town Council's storm water drainage system.

### **Access**

Erf 682, Nkurenkuru Extension 1 currently obtains access from the internal street network of Nkurenkuru Extension 1 which is 20m wide. After the formalization and the rectification of zoning, access to Erf 682 will remain as before.

It should be noted that Portion 3 Rem 60m street will not be used as an access road. Therefore, no access approval from the Roads Authority will be required for this application.

## 5 PUBLIC PARTICIPATION PROCESS

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### 5.1 PUBLIC PARTICIPATION REQUIREMENTS

In terms of Section 21 of the EIA Regulations a call for open consultation with all I&APs at defined stages of the EIA process is required. This entails participatory consultation with members of the public by providing an opportunity to comment on the proposed project. Public Participation has thus incorporated the requirements of Namibia's legislation, but also takes account of international guidelines, including Southern African Development Community (SADC) guidelines and the Namibian EIA Regulations. Public participation in this project has been undertaken to meet the specific requirements in accordance with the international best practice. Please see **Table 5** below for the activities undertaken as part of the public participation process. The I&APs were given time to comment from **02 February 2024 to 27 February 2024**.

**Table 5:** Table of Public Participation Activities

ACTIVITY	REMARKS
Placement of site notices/posters in Nkurenkuru	See <b>Annexure A</b>
Placing advertisements in two newspapers namely the New Era and The Namibian (02 February and 09 February 2024)	See <b>Annexure B</b>
Written notice to surrounding property owners and Interested and Affected Parties via Email (02 February 2024)	See <b>Annexure C</b>

#### 5.1.1 Environmental Assessment Phase 2

The second phase of the PPP involves the lodging of the Draft Environmental Scoping Report (DESR) to all registered I&APs for comment. Registered and potential I&APs were informed of the availability of the DESR for public comment *via* a letter/email dated **05 April 2024**. An Executive Summary of the DESR was also included in the letters to the registered I&APs. I&APs had until **19 April 2024** to submit comments or raise any issues or concerns they may have with regard to the proposed project.

## 6 ASSESSMENT METHODOLOGY

*The purpose of this chapter is to describe the assessment methodology utilized in determining the significance of the construction and operational impacts of the proposed project, and where applicable the possible alternatives, on the biophysical and socio-economic environment.*

Assessment of predicted significance of impacts for a proposed development is by its nature, inherently uncertain – environmental assessment is thus an imprecise science. To deal with such uncertainty in a comparable manner, a standardised and internationally recognised methodology has been developed. Such accepted methodology is applied in this study to assess the significance of the potential environmental impacts of the proposed development, outlined as follows in **Table 6**.

**Table 6:** Impact Assessment Criteria

CRITERIA	CATEGORY
<b>Impact</b>	Description of the expected impact
<b>Nature</b> Describe type of effect	<p><b>Positive:</b> The activity will have a social / economical / environmental benefit.</p> <p><b>Neutral:</b> The activity will have no effect</p> <p><b>Negative:</b> The activity will have a social / economical / environmental harmful effect</p>
<b>Extent</b> Describe the scale of the impact	<p><b>Site Specific:</b> Expanding only as far as the activity itself (onsite)</p> <p><b>Small:</b> restricted to the site's immediate environment within 1 km of the site (limited)</p> <p><b>Medium:</b> Within 5 km of the site (local)</p> <p><b>Large:</b> Beyond 5 km of the site (regional)</p>
<b>Duration</b> Predicts the lifetime of the impact.	<p><b>Temporary:</b> &lt; 1 year (not including construction)</p> <p><b>Short-term:</b> 1 – 5 years</p> <p><b>Medium term:</b> 5 – 15 years</p> <p><b>Long-term:</b> &gt;15 years (Impact will stop after the operational or running life of the activity, either due to natural course or by human interference)</p> <p><b>Permanent:</b> Impact will be where mitigation or moderation by natural course or by human interference will not occur in a particular means or in a particular time period that the impact can be considered temporary</p>
<b>Intensity</b> Describe the magnitude (scale/size) of the Impact	<p><b>Zero:</b> Social and/or natural functions and/ or processes remain unaltered</p> <p><b>Very low:</b> Affects the environment in such a way that natural and/or social functions/processes are not affected</p> <p><b>Low:</b> Natural and/or social functions/processes are slightly altered</p>

CRITERIA	CATEGORY
	<p><b>Medium:</b> Natural and/or social functions/processes are notably altered in a modified way</p> <p><b>High:</b> Natural and/or social functions/processes are severely altered and may temporarily or permanently cease</p>
<p><b>Probability of occurrence</b> Describe the probability of the Impact <u>actually</u> occurring</p>	<p><b>Improbable:</b> Not at all likely</p> <p><b>Probable:</b> Distinctive possibility</p> <p><b>Highly probable:</b> Most likely to happen</p> <p><b>Definite:</b> Impact will occur regardless of any prevention measures</p>
<p><b>Degree of Confidence in predictions</b> State the degree of confidence in predictions based on availability of information and specialist knowledge</p>	<p><b>Unsure/Low:</b> Little confidence regarding information available (&lt;40%)</p> <p><b>Probable/Med:</b> Moderate confidence regarding information available (40-80%)</p> <p><b>Definite/High:</b> Great confidence regarding information available (&gt;80%)</p>
<p><b>Significance Rating</b> The impact on each component is determined by a combination of the above criteria.</p>	<p><b>Neutral:</b> A potential concern which was found to have no impact when evaluated</p> <p><b>Very low:</b> Impacts will be site specific and temporary with no mitigation necessary.</p> <p><b>Low:</b> The impacts will have a minor influence on the proposed development and/or environment. These impacts require some thought to adjustment of the project design where achievable, or alternative mitigation measures</p> <p><b>Medium:</b> Impacts will be experienced in the local and surrounding areas for the life span of the development and may result in long term changes. The impact can be lessened or improved by an amendment in the project design or implementation of effective mitigation measures.</p> <p><b>High:</b> Impacts have a high magnitude and will be experienced regionally for at least the life span of the development or will be irreversible. The impacts could have the no-go proposition on portions of the development in spite of any mitigation measures that could be implemented.</p>

\*NOTE: Where applicable, the magnitude of the impact has to be related to the relevant standard (threshold value specified and source referenced). The magnitude of impact is based on specialist knowledge of that particular field.

For each impact, the EXTENT (spatial scale), MAGNITUDE (size or degree scale) and DURATION (time scale) are described. These criteria are used to ascertain the SIGNIFICANCE of the impact, firstly in the case of no mitigation and then with the most effective mitigation measure(s) in place. The decision as to which combination of alternatives and mitigation measures to apply lies with the proponent, and their acceptance and approval ultimately with the relevant environmental authority.

The SIGNIFICANCE of an impact is derived by taking into account the temporal and spatial scales and magnitude. Such significance is also informed by the context of the impact, i.e. the character and identity of the receptor of the impact.

### 6.1 MITIGATION MEASURES

There is a mitigation hierarchy of actions which can be undertaken to respond to any proposed project or activity (See **Figure 12** below). These cover avoidance, minimization, restoration and compensation. It is possible and considered sought after to enhance the environment by ensuring that positive gains are included in the proposed activity or project. If negative impacts occur then the hierarchy indicates the following steps.

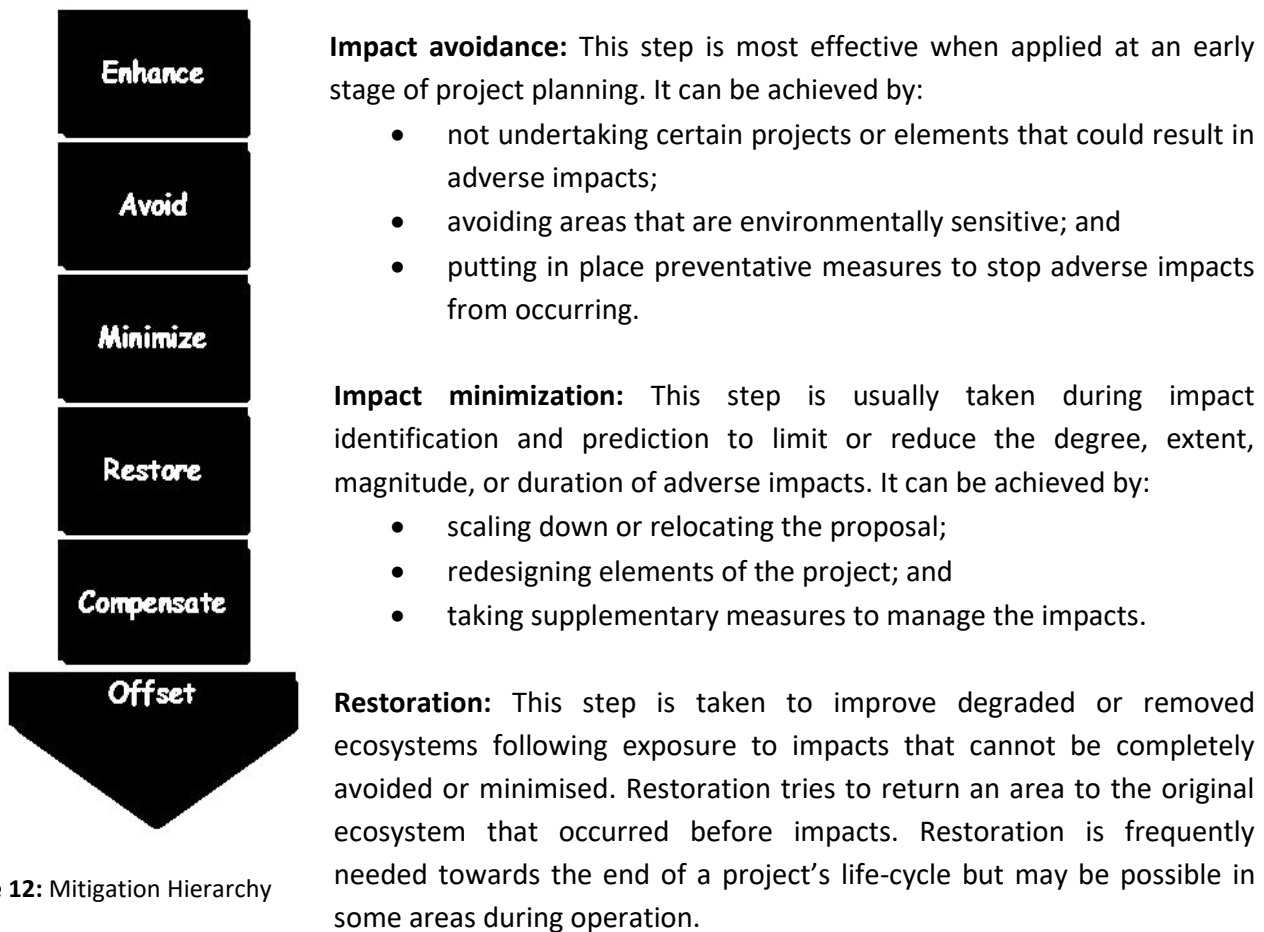


Figure 12: Mitigation Hierarchy

**Impact compensation:** This step is usually applied to remedy unavoidable residual adverse impacts. It can be achieved by:

- rehabilitation of the affected site or environment, for example, by habitat enhancement;
- restoration of the affected site or environment to its previous state or better; and
- replacement of the same resource values at another location (off-set), for example, by wetland engineering to provide an equivalent area to that lost to drainage or infill.

## **7 ASSESSMENT OF POTENTIAL IMPACTS AND POSSIBLE MITIGATION MEASURES**

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### ***7.1 INTRODUCTION***

This Chapter describes the potential impacts on the biophysical and socio-economic environments, which may occur due to the proposed activities described in Chapter 4. These include potential impacts, which may arise during the operation of the proposed development (i.e. long-term impacts) as well as the potential construction related impacts (i.e. short to medium term). The assessment of potential impacts will help to inform and confirm the selection of the preferred layouts to be submitted to MET: DEA for consideration. In turn, MET: DEA's decision on the environmental acceptability of the proposed project and the setting of conditions of authorisation (should the project be authorised) will be informed by this chapter, amongst other information, contained in this EA Report.

The baseline and potential impacts that could result from the proposed development are described and assessed with potential mitigation measures recommended. Finally, comment is provided on the potential cumulative impacts which could result should this development, and others like it in the area, be approved.

### ***7.2 PLANNING AND DESIGN PHASE IMPACTS***

During the planning and design phase consideration should be given on aspects such as impacts of traffic and existing municipal infrastructure.

#### **7.2.1 Traffic Impacts**

The street width is sufficient to accommodate additional traffic resulting from the proposed rezoning. Thus, there are no negative impacts anticipated from the proposed development on the surrounding areas.

### ***7.3 CONSTRUCTION PHASE IMPACTS ON THE BIOPHYSICAL ENVIRONMENT***

The construction phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the construction phase. These impacts are inherently temporary in duration but may have longer lasting effects.

#### **7.3.1 Flora and Fauna Impacts (Biodiversity)**

As the project site is mostly undeveloped there is sparse vegetation present on site. The vegetation present on site should be incorporated within the layout of the proposed development as far as possible. It is anticipated that the proposed development area and associated infrastructure (e.g.



water, sewage, access route, etc.) would have localised negative implications on the environment and associated fauna and flora should the proposed mitigation measures as outlined in the EMP be enforced.

### **7.3.2 Surface and Ground Water Impacts**

Surface and groundwater impacts may be encountered during the construction and operation phase, especially if development takes place within the rainy season. The risk of contaminating such water sources can be increased by accidental spillage of oils and fuels and any other equipment used during construction. This risk is minimised by the fact that the construction phase will be a short-term activity.

### **7.3.3 Soil Erosion Impacts**

Given the characteristics of the proposed site, soil erosion is likely to be encountered especially if construction will take place during the rainy season, the removal of the sparse vegetation will render the soil vulnerable to erosion as they also serve the purpose of keeping the soils compacted.

## ***7.4 CONSTRUCTION PHASE IMPACTS ON THE SOCIO-ECONOMIC ENVIRONMENT***

### **7.4.1 Heritage impacts**

No archaeological and heritage resources are expected to be found on the site. The project management should however be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds.

### **7.4.2 Health, Safety and Security Impacts**

Working conditions on site need to ensure that the health and safety of construction workers are ensured at all times. The use of local labour during construction is strongly encouraged so as to reduce the need for migrant workforce. Health and Safety requirements need to comply with the Labour Act no. 11 of 2007 and national health and safety regulations during construction.

### **7.4.3 Traffic Impacts**

This rezoning will not attract any extra traffic, as it is a formalization of an existing situation, and there will be no new developments on the properties.

### **7.4.4 Noise Impacts**

This rezoning will not attract any noise impacts, as it is a formalisation of an existing situation, and there will be no new developments on the properties.

#### **7.4.5 Dust and Emission Impacts**

This rezoning will not attract any extra dust impacts, as it is a formalisation of an existing situation, and there will be no new developments on the properties that might cause emissions beyond the standard emissions.

#### **7.4.6 Municipal Services**

The proposed permanent closure and subsequent rezoning will not have any negative impacts on any municipal services, as there will be no new uses or new developments on the proposed erven.

#### **7.4.7 Storage and Utilisation of Hazardous Substances**

Hazardous substances are regarded by the Hazardous Substance Ordinance (No. 14 of 1974) as those substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances. During the construction period, the use and storage of these types of hazardous substances, such as shutter oil, curing compounds, types of solvents, primers and adhesives and diesel, on-site could have negative impacts on the surrounding environment if these substances spill and enter the environment.

### ***7.5 OPERATIONAL PHASE IMPACTS***

The operational phase impacts are those impacts on the biophysical and socio-economic environment that would occur during the operational phase of the proposed project and are inherently long-term in duration.

#### **7.5.1 Visual and Sense of Place Impacts**

The extent of this disturbance will depend on how highly the interested and affected parties valued the initial aesthetic quality of the site. The intended activities for the proposed site may alter the sense of place for the existing community and property owners situated in close proximity to the site, as well as the residents of Nkurenkuru who frequent the site.

#### **7.5.2 Noise Impacts**

The operational activities may result in associated noise impacts, depending on the exact type of activities taking place on the properties. However, due to the nature of the land uses proposed for the subject erven it is not expected that the noise levels will be significant if managed well.

### 7.5.3 Emission Impacts

The air quality in the area is considered to be fairly good. Additional emissions are not expected due to the land uses that are intended for the site.

### 7.5.4 Social Impacts

From a social perspective, the rectification of zoning on Erf 682, Nkurenkuru Extension 1 will have a positive socio-economic impact on the new owner of the property, who will now have ownership of the land with the right zoning enabling the owner to operate business activities. It will also allow Council to start collecting much needed rates and taxes on the property. The local people of Nkurenkuru are further expected to benefit from the employment opportunities that may be offered during different phases of the project.

## 7.6 CUMULATIVE IMPACTS

The cumulative impact of the proposed developments in regard to the degradation of the project area is very difficult to rate. If all proposed mitigation measures are however in place to minimise the overall impacts then the cumulative impact can be expected to be rated as **Medium-Low (negative)** for the proposed developments.

## 7.7 ENVIRONMENTAL MANAGEMENT PLAN

An Environmental Management Plan (EMP) is contained in **Annexure F** of this report. The purpose of the EMP is to outline the type and range of mitigation measures that should be implemented during the construction and decommissioning phases of the project to ensure that negative impacts associated with the development are avoided or mitigated.

## 7.8 SUMMARY OF POTENTIAL IMPACTS

A summary of all the potential impacts from the proposed project assessed above is included in **Table 7**. The **Tables 8 – 9** provide a summary of the mitigation measures proposed for the impacts. While some difference in magnitude of the potential impacts would result from the proposed alternatives this difference was not considered to be significant for any of the potential impacts. As such, the table below applies to all proposed alternatives.

**Table 7: Summary of the significance of the potential impacts**

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
<b>PLANNING AND DESIGN PHASE</b>										
<b>1. Traffic Impacts</b>	Nkurenkuru	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
<b>CONSTRUCTION PHASE</b>										
<b>2. Biodiversity (Fauna and Flora)</b>	Nkurenkuru	No mitigation	Local	Medium-Low	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>3. Surface &amp; ground water</b>	Nkurenkuru	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Low	Short term	Medium - low	Probable	Certain	Reversible	Medium - Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>4. Soil erosion</b>	Nkurenkuru	No mitigation	Local	Medium	Short term	Medium - low	Probable	Certain	Reversible	Medium - low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>5. Heritage</b>	Nkurenkuru	No mitigation	Local	Very low	Short term	Very low	Probable	Certain	Irreversible	Very low(-ve)
		Mitigation	Local	Negligible	Short term	Negligible	Probable	Certain	Irreversible	Negligible (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>6. Health, safety and security</b>	Nkurenkuru	No mitigation	Local	Medium-Low	Short term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>7. Traffic impacts</b>	Nkurenkuru	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>8. Noise impacts</b>	Nkurenkuru	No mitigation	Local	Medium	Short term	Medium - low	Probable	Certain	Reversible	Medium - Low (-ve)
		Mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>9. Emissions impacts</b>	Nkurenkuru	No mitigation	Local	Medium	Short term	Low	Probable	Certain	Reversible	Medium - Low (-ve)
		Mitigation	Local	Low	Short term	Very Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>10. Municipal services</b>	Nkurenkuru	No mitigation	Local	Low	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Very low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>11. Waste</b>	Nkurenkuru	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
<b>12. Hazardous Substances</b>	Nkurenkuru	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Very low	Short term	Low	Probable	Certain	Reversible	Very low (-ve)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
<b>OPERATIONAL PHASE</b>										
<b>1. Surface &amp; ground water</b>	Nkurenkuru	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Very-Low (-ve)
	No go	No mitigation	Local	Low	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Low	Medium term	Neutral	Probable	Certain	Reversible	Neutral
<b>2. Visual &amp; sense of place</b>	Nkurenkuru	No mitigation	Local	Medium	Medium term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
<b>3. Noise</b>	Nkurenkuru	No mitigation	Local	Medium-Low	Medium term	Medium-Low	Probable	Certain	Reversible	Medium-Low (-ve)
		Mitigation	Local	Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
<b>4. Emissions</b>	Nkurenkuru	No mitigation	Local	Medium-Low	Medium term	Low	Probable	Certain	Reversible	Medium-Low (-ve)
		Mitigation	Local	Low	Medium	Very Low	Probable	Certain	Reversible	Low (-ve)



Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
					term					
	No go	No mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Medium term	Neutral	Probable	Certain	Reversible	Neutral
<b>5. Social impact</b>	Nkurenkuru	No mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	High (+)
		Mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	High (+)
	No go	No mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral
		Mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral

**Table 8:** Proposed mitigation measures for the construction phase

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
<b>Flora and Fauna</b>	<ul style="list-style-type: none"> <li>• Adapt the proposed developments to the local environment – e.g. small adjustments to the site layout could avoid potential features such as water bodies and vegetation.</li> <li>• Prevent the destruction of protected and endemic plant species.</li> <li>• Prevent contractors from collecting wood, veld food, etc. during the construction phase.</li> <li>• Do not clear cut the entire development site, but rather keep the few individual trees/shrubs not directly affecting the developments as part of the landscaping.</li> <li>• The plants that are to be kept should be clearly marked with “danger tape” to prevent accidental removal.</li> <li>• Regular inspection of the marking tool should be carried out.</li> <li>• The very important plants should be “camped off” to prevent the unintended removal or damage to these trees.</li> <li>• Recommend the planting of local indigenous species of flora as part of the landscaping as these species would require less maintenance than exotic species.</li> <li>• Transplant removed plants where possible, or plant new plants in lieu of those that have been removed.</li> <li>• Prevent the introduction of potentially invasive alien ornamental plant species such as; <i>Lantana</i>, <i>Opuntia</i>, <i>Prosopis</i>, <i>Tecoma</i>, etc.; as part of the landscaping as these species could infest the area further over time.</li> </ul>
<b>Surface and Ground Water Impacts</b>	<ul style="list-style-type: none"> <li>• It is recommended that construction takes place outside of the rainy season in order to limit flooding on site and surface water pollution.</li> <li>• No dumping of waste products of any kind in or in close proximity to surface water bodies.</li> <li>• Heavy construction vehicles should be kept out of any surface water bodies and the movement of</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
	<p>construction vehicles should be limited where possible to the existing roads and tracks.</p> <ul style="list-style-type: none"> <li>• Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with.</li> <li>• Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles.</li> <li>• Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies.</li> <li>• All materials on the construction site should be properly stored.</li> <li>• Disposal of waste from the sites should be properly managed and taken to the designated landfill site.</li> <li>• Construction workers should be given ablution facilities at the construction sites that are located at least <b>30 m</b> away from any surface water and regularly serviced.</li> <li>• Washing of personnel or any equipment should not be allowed on site. Should it be necessary to wash construction equipment these should be done at an area properly suited and prepared to receive and contain polluted waters.</li> </ul>
<b>Soil Erosion</b>	<ul style="list-style-type: none"> <li>• It is recommended that construction takes place outside of the rainy season in order to limit potential flooding and the runoff of loose soil causing further erosion.</li> <li>• Appropriate erosion control structures must be put in place where soil may be prone to erosion.</li> <li>• Checks must be carried out at regular intervals to identify areas where erosion is occurring.</li> <li>• Appropriate remedial actions are to be undertaken wherever erosion is evident.</li> </ul>
<b>Heritage</b>	<ul style="list-style-type: none"> <li>• The project management should be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds.</li> <li>• In the event of such finds, construction must stop, and the project management or contractors should notify the National Heritage Council of Namibia immediately.</li> </ul>
<b>Health, Safety and</b>	<ul style="list-style-type: none"> <li>• Construction personnel should not overnight at the site, except the security personnel.</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
<b>Security</b>	<ul style="list-style-type: none"> <li>• Ensure that all construction personnel are properly trained depending on the nature of their work.</li> <li>• Provide for a first aid kit and a properly trained person to apply first aid when necessary.</li> <li>• A wellness program should be initiated to raise awareness on health issues, especially the impact of sexually transmitted diseases as described above.</li> <li>• Provide free condoms in the workplace and to local community throughout the construction period and promote their usage.</li> <li>• Facilitate access to Antiretroviral (ARV) medication.</li> <li>• Encourage HIV counselling and testing.</li> <li>• Encourage Voluntary Medical Male Circumcision (VMMC).</li> <li>• Provide awareness on the prevention of mother to child HIV Transmission.</li> <li>• Restrict unauthorised access to the site and implement access control measures.</li> <li>• Clearly demarcate the construction site boundaries along with signage of “no unauthorised access”.</li> <li>• Clearly demarcate dangerous areas and no-go areas on site.</li> <li>• Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures.</li> <li>• The contractor must comply with all applicable occupational health and safety requirements.</li> <li>• The workforce should be provided with all necessary Personal Protective Equipment where appropriate.</li> </ul>
<b>Traffic</b>	<ul style="list-style-type: none"> <li>• Limit and control the number of access points to the site.</li> <li>• Ensure that road junctions have good sightlines.</li> <li>• Construction vehicles’ need to be in a road worthy condition and maintained throughout the construction phase.</li> <li>• Transport the materials in the least number of trips as possible.</li> <li>• Adhere to the speed limit.</li> </ul>

<b>CONSTRUCTION PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
	<ul style="list-style-type: none"> <li>• Implement traffic control measures where necessary.</li> </ul>
<b>Noise</b>	<ul style="list-style-type: none"> <li>• No amplified music should be allowed on site.</li> <li>• Inform immediate neighbours of construction activities to commence and provide for continuous communication between the neighbours and contractor.</li> <li>• Limit construction times to acceptable daylight hours.</li> <li>• Install technology such as silencers on construction machinery.</li> <li>• Do not allow the use of horns as a general communication tool but use it only where necessary as a safety measure.</li> </ul>
<b>Dust and Emission</b>	<ul style="list-style-type: none"> <li>• It is recommended that dust suppressants such as Dustex be applied to all the construction clearing activities to ensure at least 50% control efficiency on all the unpaved roads and reduce water usage.</li> <li>• Construction vehicles to only use designated roads.</li> <li>• During high wind conditions the contractor must make the decision to cease works until the wind has calmed down.</li> <li>• Cover any stockpiles with plastic to minimise windblown dust.</li> <li>• Provide workers with dust masks.</li> </ul>
<b>Waste</b>	<ul style="list-style-type: none"> <li>• It is recommended that waste from the temporary toilets be disposed of at an approved Wastewater Treatment Works.</li> <li>• A sufficient number of waste bins should be placed around the site for the soft refuse.</li> <li>• A sufficient number of skip containers for the heavy waste and rubble should be provided for around</li> </ul>

CONSTRUCTION PHASE IMPACTS	
Impact	Mitigation Measures
	<p>the site.</p> <ul style="list-style-type: none"> <li>• Solid waste will be collected and disposed of at an appropriate local land fill or an alternative approved site, in consultation with the local authority.</li> </ul>
<b>Hazardous Substances</b>	<ul style="list-style-type: none"> <li>• Storage of the hazardous substances in a bunded area, with a volume of 120 % of the largest single storage container or 25 % of the total storage containers whichever is greater.</li> <li>• Refuel vehicles in designated areas that have a protective surface covering and utilise drip trays for stationary plant.</li> </ul>

**Table 9:** Proposed mitigation measures for the operational phase

<b>OPERATIONAL PHASE IMPACTS</b>	
<b>Impact</b>	<b>Mitigation Measures</b>
<b>Surface and Ground Water</b>	<ul style="list-style-type: none"> <li>• A no-go buffer area of at least 15 m should be allocated to any water bodies in the area.</li> <li>• No dumping of waste products of any kind in or in close proximity to any surface water bodies.</li> <li>• Contaminated runoff from the various operational activities should be prevented from entering any surface or ground water bodies.</li> <li>• Ensure that surface water accumulating on-site are channeled and captured through a proper storm water management system to be treated in an appropriate manner before disposal into the environment.</li> <li>• Disposal of waste from the various activities should be properly managed.</li> </ul>
<b>Visual and Sense of Place</b>	<ul style="list-style-type: none"> <li>• It is recommended that more 'green' technologies be implemented within the architectural designs and building materials of the development where possible in order to minimise the visual prominence of such a development within the more natural surrounding landscape.</li> <li>• Natural colours and building materials such as wood and stone should be incorporated as well as the use of indigenous vegetation in order to help beautify the development.</li> <li>• Visual pollutants can further be prevented through mitigations (i.e. keep existing trees, introduce tall indigenous trees; keep structures unpainted and minimising large advertising billboards).</li> </ul>
<b>Noise</b>	<ul style="list-style-type: none"> <li>• Do not allow commercial activities that generate excessive noise levels.</li> <li>• Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits.</li> <li>• No activity having a potential noise impact should be allowed after 18:00 hours if possible.</li> </ul>
<b>Emissions</b>	<ul style="list-style-type: none"> <li>• Consider tarring of the internal road network.</li> <li>• Manage activities that generate emissions.</li> <li>• Use vapour recovery equipment and techniques to avoid air pollution and minimise fuel loss.</li> <li>• Train fuel area staff in vapour recovery procedures.</li> </ul>
<b>Social Impacts</b>	No specific mitigation measures are required, only that the local community be consulted in terms of possible job creation opportunities and must be given first priority if unspecialised job vacancies are available.



## 8 CONCLUSION

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*The purpose of this Chapter is to briefly summarise and conclude the FESR and describe the way forward.*

### **8.1 CONSTRUCTION PHASE IMPACTS**

With reference to **Table 7**, none of the negative construction phase impacts were deemed to have a high significance impact on the environment. The construction impacts were assessed to a **Medium to Low (negative)** significance, without mitigation measures. With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP, the significance of the construction phase impacts is likely to be reduced to a **Low (negative)**.

### **8.2 OPERATIONAL PHASE**

The most significant operational phase impact **medium (positive)** is the social impact. This is as a result of the potential job and economic opportunities during operation as well the increased development within the area. Furthermore, the street creation aims to contribute to the beautification of the area as the intended new street can create a vibrant street with economic opportunities such as street-café's and street trading in a safe space, away from the main traffic, but also close enough to the traffic to be an economic advantage.

### **8.3 LEVEL OF CONFIDENCE IN ASSESSMENT**

With reference to the information available at the project planning cycle, the confidence in the environmental assessment undertaken is regarded as being acceptable for the decision-making, specifically in terms of the environmental impacts and risks. The Environmental Assessment Practitioner believes that the information contained within this FESR is adequate to allow MET: DEA to be able to determine the environmental acceptability of the proposed project.

It is acknowledged that the project details will evolve during the detailed design and construction phases. However, these are unlikely to change the overall environmental acceptability of the proposed project and any significant deviation from what was assessed in this DESR should be subject to further assessment. If this was to occur, an amendment to the Environmental Authorisation may be required in which case the prescribed process would be followed.

### **8.4 MITIGATION MEASURES**

With the implementation of the recommended mitigation measures in Chapter 7 as well as in the EMP, the significance of the construction and operational phase impacts is likely to be reduced to a **Low (negative)**. **It is further extremely important to include an Environmental Control Officer**

**(ECO) on site during the construction phase of the proposed project to ensure that all the mitigation measures discussed in this report and the EMP are enforced.**

It is noted that where appropriate, these mitigation measures and any others identified by MET: DEA could be enforced as Conditions of Approval in the Environmental Authorisation, should MET: DEA issue a positive Environmental Authorisation.

### **8.5 OPINION WITH RESPECT TO THE ENVIRONMENTAL AUTHORISATION**

Regulation 15(j) of the EMA, requires *that the EAP include an opinion as to whether the listed activity must be authorised and if the opinion is that it must be authorised, any condition that must be made in respect of that authorisation.*

It is recommended that this project be authorised because should the development not proceed the subject area will maintaining the current situation, whereby the subject erf will remain zoned for Public Open Space. As such, the proposed site would not be rezoned to be used for Business purposes. Thus, the residents will not benefit or be impacted by the Business activities proposed for the site. The rectification of zoning on Erf 682, Nkurenkuru Extension 1 will have a positive socio-economic impact on the new owner of the property, who will now have ownership of the land with the right zoning enabling them to operate their business. Potential job and economic opportunities may be available to the local people of Nkurenkuru during construction and operation. It will also allow Council to start collecting much needed rates and taxes on the property. The significance of the social impact was therefore deemed to be **Medium (positive)**.

The “no go” alternative on the other hand was deemed to have a **High (negative)** impact, as all the social benefits resulting from the development would not be realised.

The significance of negative impacts can be reduced with effective and appropriate mitigation provided in this report and the EMP. If authorised, the implementation of an EMP should be included as a condition of approval.

### **8.6 WAY FORWARD**

The FESR is herewith submitted to MEFT: DEAF for consideration and decision making. If MEFT: DEAF approves, or requests additional information / studies all registered I&APs and stakeholders will be kept informed of progress throughout the assessment process.

## 9 REFERENCES

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