Environmental Assessment Scoping Report for

Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and the Remainder for the Townships Establishment of Omashaka Proper and Omashaka Extension 1.

October 2023

APP-002338

Prepared for: Ondangwa Town Council
Private Bag 2032, Ondangwa
Contact Number: +264 65 240 101
Contact Person: Rachel Naukushu
Email: *townplanningclerk@ondangwatown.com*

Prepared by: Stubenrauch Planning Consultants
P.O. Box 41404, Windhoek
Contact Person: Bronwynn Basson
Contact Number: +264 (61) 25 11 89
Fax Number: +264 (61) 25 11 89
Email: bronwynn@spc.com.na

PROJECT DETAILS

Title	Environmental Scoping Report for the: ▪ Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and the Remainder for the Townships Establishment of Omashaka Proper and Omashaka Extension 1.		
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Proponent	Ondangwa Town Council Private Bag 2032, Ondangwa Contact Number: +264 65 240 101 Contact Person: Rachel Naukushu Email: townplanningclerk@ondangwatown.com		
Environmental Assessment Practitioner	Stubenrauch Planning Consultants P.O. Box 41404, Windhoek Contact Person: Bronwynn Basson Contact Number: +264 (61) 25 11 89 Fax Number: +264 (61) 25 11 89 Email: bronwynn@spc.com.na		
Report date	October 2023		
	Name	**Signature**	**Date**
Authors	Elina SP Vakuwile		October 2023
Reviewer	Magnus van Rooyen		October 2023

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EXECUTIVE SUMMARY

Introduction

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

- **Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and Remainder;**
- **Layout approval and township establishment on Portion A of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Proper;**
- **Reservation of the Remainder of Portion A of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Layout approval and township establishment on Portion B of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Extension 1;**
- **Reservation of the Remainder of Portion B of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Inclusion of Omashaka Proper and Extension 1 in the next Zoning Scheme to be prepared for Ondangwa.**

The above development triggers 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, Forestry and Tourism: Department of Environmental Affairs and Forestry (MEFT: DEAF).

Project Description

The Ondangwa Town Council intends to formalize the existing Omashaka informal settlement and create additional properties that will cater to the varying property needs for the residents of Ondangwa. This will be done through by the establishment of two townships to be known as Omashaka Proper and Omashaka Extension 1.

The proposed Omashaka Proper and Omashaka Extension 1 are merely a formalization of the Omashaka Informal Settlement which has been in existence for many years. The proposed Omashaka Proper measures **30.60 ha** in extent while Omashaka Extension 1 measures **35.53 ha** in extent.

The Omashaka Informal Settlement that is to be formalized is partly built up with mainly local business structures and a few traditional households and mahangu fields which have been fairly incorporated into the layout plans for Omashaka Proper and Extension 1. The most predominant land use in Omashaka Informal Settlement is mainly "Residential" dwellings, and the second most

predominant land use is “Business”. These have all been accommodated to ensure that after this formalisation exercise, the residents will continue to live and work in their neighbourhood, with as minimal disturbances as possible.

The existing non-residential land uses, such as the existing shops, Public Open Spaces and streets are respected in the layout designs. This results in the creation of some relatively narrow street reserves within the built-up areas; these are however considered to be functional due to the short street lengths and slow traffic speeds maintained along these streets. The need to cater for wider street reserves along the periphery of the development is however acknowledged. In addition to this, the properties have been demarcated as determined by the residents of the neighbourhood, in order to avoid land disputes between the residents of Omashaka.

The aims of the two townships establishment are to formalize the existing situation on the ground, and to provide additional residential erven to help cater to the increasing demand for residential properties in the town of Ondangwa. The proposed Omashaka Proper township comprises of 349 erven and the Remainder which is reserved for the streets while the proposed Omashaka Extension 1 comprises of 261 erven and the Remainder which is also reserved for the streets.

This formalisation, as proposed will enable the Ondangwa Town Council to provide tenure security to the residents of Omashaka, through the provision of freehold land rights.

Omashaka which is being subdivided into two townships contains easily identifiable local rivers as well as local ponds, in which storm water flows. Due to how often these rivers and ponds fill up with water during the rainy seasons, they have mostly been accommodated and respected in the proposed layouts for both Omashaka Proper and Omashaka Extension 1.

The area is located on higher grounds, limiting the effect of possible inundations from the natural stormwater drainage lines (iishana) which surround the subject area. The subject areas comprise of natural storm water ponds which have been respected and accommodated as “public Open Spaces” in the two proposed layout plans for the two townships.

The proposed formalization will enable the Town Council of Ondangwa to provide freehold land tenure to the households currently residing on the subject area.

Public Participation

Communication with Interested and Affected Parties (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 **18 April 2023;**

- Notices were placed in the New Era newspapers and the Namibian newspapers dated **18 April 2023 and 25 April 2023**, briefly explaining the activity and its locality, inviting members of the public to register as I&APs (**Appendix B**); and
- A notice was fixed at the project site (see **Appendix A**);

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 **Friday, 24 May 2023**). The comment period will remain open until the final scoping report is submitted to MEFT.

The Draft Scoping Report was circulated from the **29 September 2023 until the 13 October 2023** so that the public could review and comment on it. The overall commentary received from the public on the draft report will be documented in the comments and responses report document of this report.

Conclusions and Recommendations

With reference to **Table 10**, none of the negative construction phase impacts were deemed to have a high significant 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)***.

With reference to **Table 10**, none of the negative operational phase impacts were deemed to have a high significance impact on the environment. The operational impacts were assessed to a ***Medium (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)***.

It is recommended that this project be authorised because should the development not proceed the subject area will remain in its current state of uncontrolled settlement growth and there will be no provision of serviced erven. The residents will not have formal and permanent land occupation and security of tenure and no additional revenue incomes to be generated. The residents will not be able to expand their financial security, as they will be able to use these land rights to expand their business, renovate their homes, pass their homes on to their dependants in the form of inheritance, which all works towards wealth generation and economic empowerment. The local community is expected to benefit from the development because of the potential job opportunities during construction as well as the increased development within the area.

Furthermore, the community of Ondangwa specifically people from Omashaka are further expected to benefit from the "Business" zoned erven that will creates employment opportunities for the locals. 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 the EMP should be included as a condition of approval.

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LIST OF ACRONYMS

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

1 INTRODUCTION

1.1 PROJECT BACKGROUND

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

- **Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and Remainder;**
- **Layout approval and township establishment on Portion A of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Proper;**
- **Reservation of the Remainder of Portion A of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Layout approval and township establishment on Portion B of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Extension 1;**
- **Reservation of the Remainder of Portion B of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Inclusion of Omashaka Proper and Extension 1 in the next Zoning Scheme to be prepared for Ondangwa.**

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.

Activity description and No(s):	**Description of relevant Activity**	**The portion of the development as per the project description that relates to the applicable listed activity**
Activity 5.1 (d) (Land Use and Development)	The rezoning of land from nature conservation or zoned open space to any other land use.	The proposed project involves the closure of a public open space to be utilised for township establishment.
Activity 10.1 (a) Infrastructure	The construction of oil, water, gas and petrochemical and other bulk supply pipelines;	The proposed project involves the installation of bulk services.

Activity description and No(s):	Description of relevant Activity	The portion of the development as per the project description that relates to the applicable listed activity
Activity 10.1 (b) Infrastructure	The construction of Public roads	The proposed project includes the construction of roads.
Activity 10.2 (a) Infrastructure	The route determination of roads and design of associated physical infrastructure where – it is a public road	The proposed project includes the route determination of roads.

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, Forestry and Tourism: Department of Environmental Affairs and Forestry (MEFT: DEAF).

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

The area on the Remainder of the Farm Ondangwa Town and Townlands No. 882 which is earmarked for the establishment of the Omashaka townships is located north of the Ondangwa town, north-east of the Ondangwa Railway Station as depicted in **Figure 1** below.

1.3 LAND USE

According to the Ondangwa Zoning Scheme, the subject area is zoned for “Undetermined” purposes making it suitable for the establishment of the proposed townships. The area on the Remainder of the Farm Ondangwa Town and Townlands No. 882 which is earmarked for the establishment of the Omashaka townships that is to be formalized is partly built up with mainly local business structures and a few traditional households and mahangu fields which have been fairly incorporated into the layout plans for Omashaka Proper and Extension 1.

The subject areas comprise of natural storm water ponds which have been respected and accommodated as “public Open Spaces” in the layout plans for Omashaka Proper and Extension 1.

The area is located on higher grounds, limiting the effect of possible inundations from the natural stormwater drainage lines (iishana) which surround the subject area.

These areas also have pre-defined informal streets which provide access to the various land uses within the settlements and provide linkages to the surrounding areas adjacent to Omashaka Proper and Extension 1. Most of these streets have been respected in the layout plans for the subject areas.

1.4 OWNERSHIP

According to the Certificate of Registered State Title No. T941/1991, the ownership of the Remainder of the Farm Ondangwa Town and Townlands No. 882 on which the proposed Omashaka Proper and Extension 1 are to be established vests with the Ondangwa Town Council.

There is a 15m wide Waterline servitude running across the Remainder of the Farm Ondangwa Town and Townlands No. 882 and it does not prohibit nor hinder the proposed development of Omashaka Proper and Extension 1. This servitude has been accommodated within the “Public Open Space” in the proposed layout plan of Omashaka Extension 1.

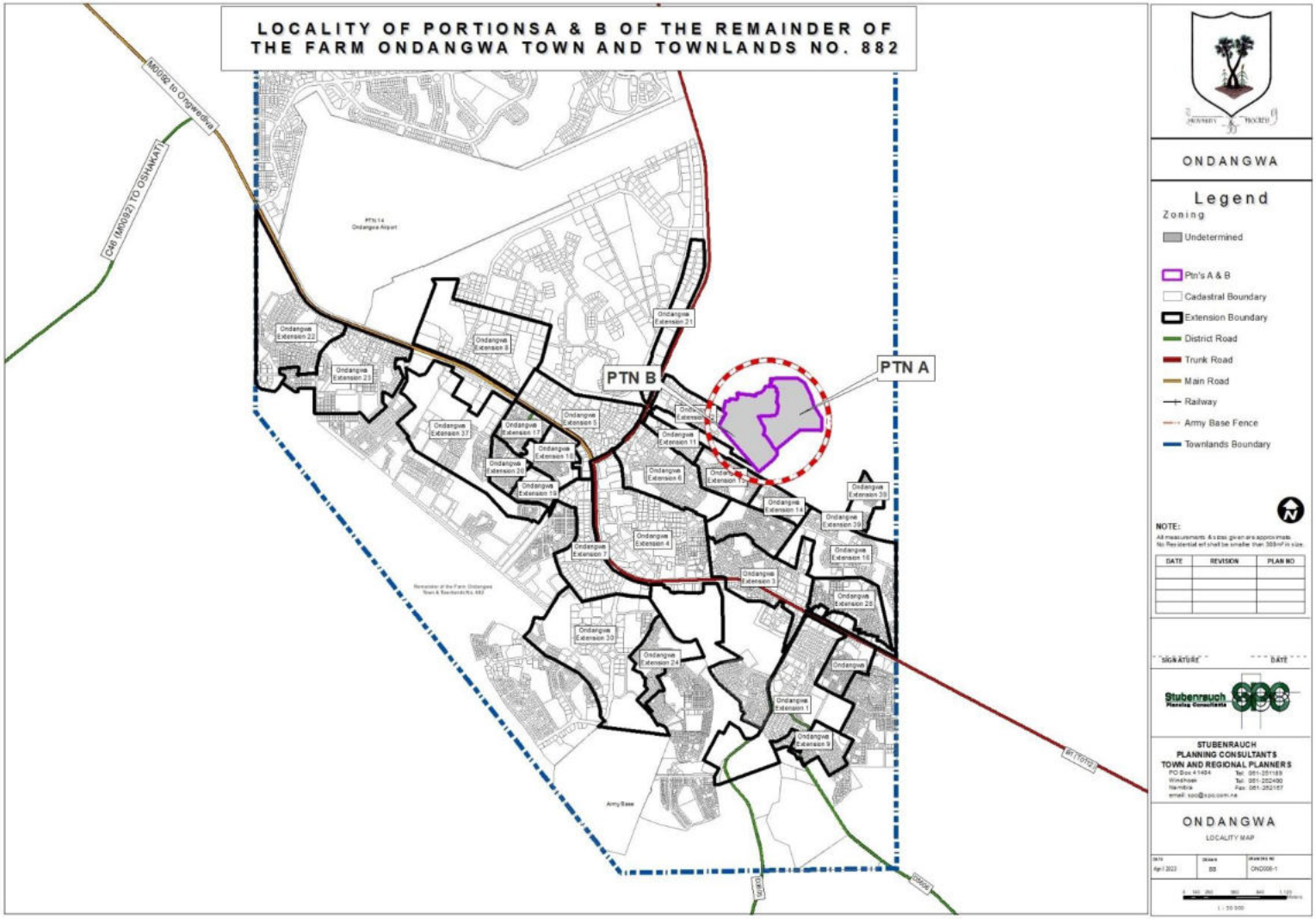

Figure 1: Locality map of Portion A and B of the Remainder of the Farm Ondangwa Townlands No 882

1.5 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:

- **Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and Remainder;**
- **Layout approval and township establishment on Portion A of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Proper;**
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- **Inclusion of Omashaka Proper and Extension 1 in the next Zoning Scheme to be prepared for Ondangwa.**

1.6 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 Omashaka 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.

1.7 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 **Annexure E**
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 cultural aspects of the environment may be affected by the proposed listed activity;	Refer to Chapter 3
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 **Annexures A** and **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 **Annexure C**
	(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 **Annexure C**
8 (g)	A description of the need and desirability of the proposed listed activity and any	Refer to Chapter 4

Section	Description	Section of FESR/ Annexure
	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;	
8 (h)	A description and assessment of the significance of any significant effects, 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;	Refer to Chapter 7
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 **Annexure F**

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.	**Activity 5.1 (d) (Land Use and Development)** **Activity 10.1 (a) Infrastructure** **Activity 10.1 (b) Infrastructure** **Activity 10.2 (a) Infrastructure**
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.
Urban and Regional Planning Act 5 of 2018	The Act provides to consolidate the laws relating to urban and regional planning; to provide for a legal framework for spatial planning in Namibia; to provide for principles and standards of spatial planning; to establish the urban and regional planning board; to decentralise certain matters relating to spatial planning; to provide for the preparation, approval and review of the national spatial development framework, regional structure plans and urban structure plans; to provide for the preparation, approval, review and amendment of zoning schemes; to provide for the establishment of townships; to provide for the alteration of boundaries of approved townships, to provide for the disestablishment of approved townships; to provide for the change of name of approved townships; to provide for the subdivision and consolidation of land; to provide for the alteration,	The subdivision and consolidation of land as well as the establishment of townships is to be done in accordance with the act.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	suspension and deletion of conditions relating to land; and to provide for incidental matters.	
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 must 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 may be relocated.
Roads Ordinance 17 of 1972	• Section 3.1 deals with width of proclaimed roads and road reserve boundaries • Section 27.1 is concerned with the control of traffic on urban trunk and main roads • Section 36.1 regulates rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads • Section 37.1 deals with Infringements and obstructions on and interference with proclaimed roads.	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	Contractors and users of the proposed development are to comply with these legal requirements.

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	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).	
Nature Conservation Ordinance no. 4 of 1975	Chapter 6 provides for legislation regarding the protection of indigenous plants	Indigenous and protected plants must 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
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	Protected tree and plant species as per the Forest Act No 12 of 2001 and Forest Regulations of 2015 may

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
	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. 1of 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.	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 smoke, Part IV - dust control, and Part V - air pollution by fumes emitted by vehicles.	The development should consider the provisions outlined in the act. The proponent should apply for an Air Emissions permit from the Ministry of Health and Social Services (if needed).

LEGISLATION/POLICIES	RELEVANT PROVISIONS	RELEVANCE TO PROJECT
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.

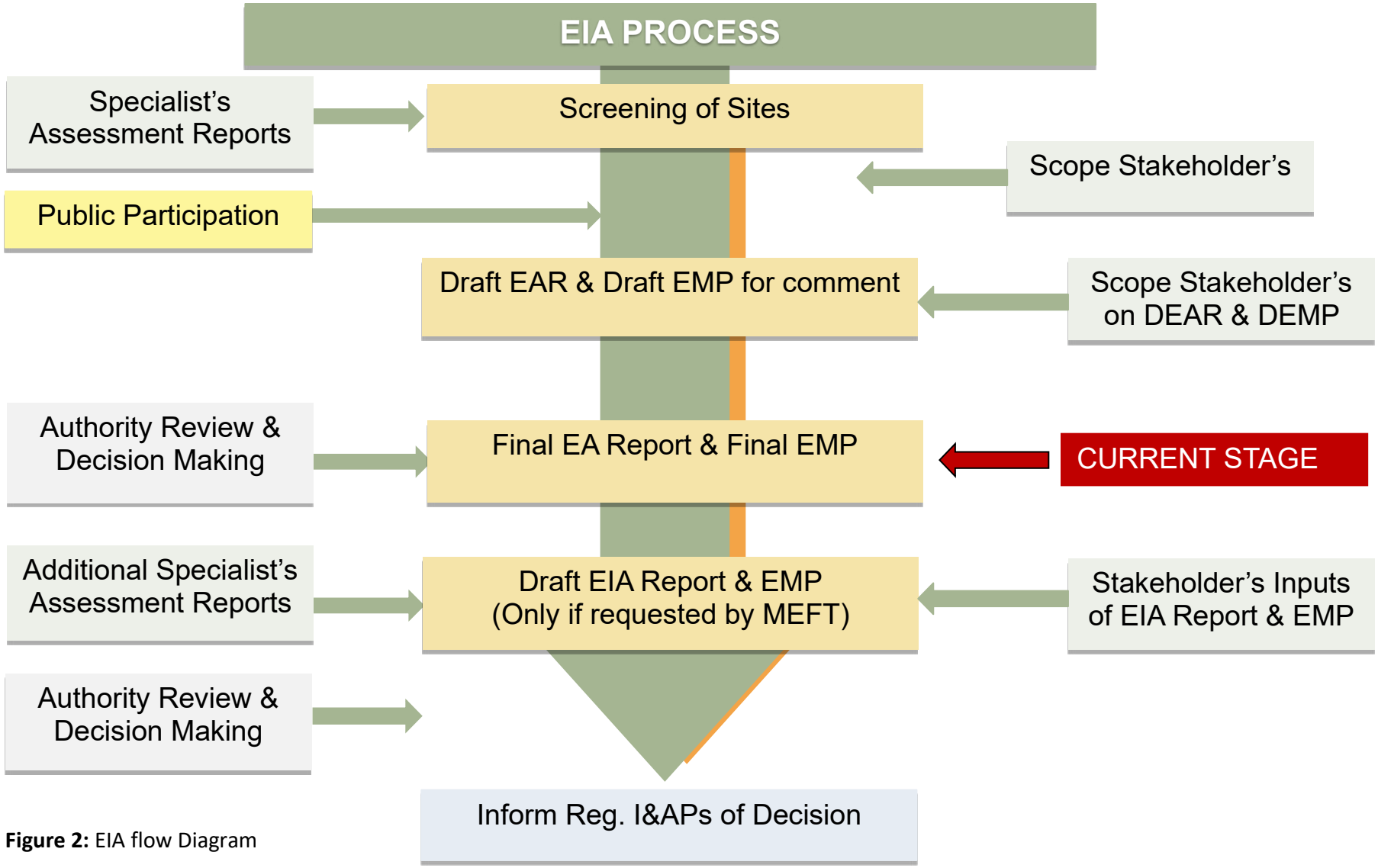


Figure 2: EIA flow Diagram

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, 2011), and presented from a local and regional perspective.

Table 4: Statistics of the Ondangwa Constituency (Namibia Statistics Agency, 2011)

ONDANGWA CONSTITUENCY	
ATTRIBUTE	**INDICATOR**
Population	22 822
Females	19 744
Males	17 102
Population under 5 years	12%
Population aged 5 to 14 years	19%
Population aged 15 to 59 years	63%
Population aged 60 years and above	6%
Female: male ratio	87:100
Literacy rate of 15 years old and above	96%
People above 15 years who have never attended school	8%
People above 15 years who are currently attending school	18%
People above 15 years who have left school	71%
People aged 15 years and above who belong to the labour force	65%
Population employed	62%
Homemakers	7%
Students	64%
Retired or old age income recipients	30%
Income from pension	16%
Income from business and non-farming activities	20%
Income from farming	12%
Income from cash remittance	4%
Wages and salaries	44%
Main Language	Oshiwambo Languages- 94%
OSHANA REGION	
ATTRIBUTE	**INDICATOR**
Population	176 674
Population aged 60 years and above	8%
Population aged 5 to 14 years	21%
Population aged 15 to 59 years	59%

3.1.2 Archaeological and Heritage Context

No archaeological and heritage sites are known to be located within the proposed development area. The project management should however be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds.

3.2 BIO-PHYSICAL ENVIRONMENT

3.2.1 Climate

The climate of the subject area can be described as semi-arid. Average annual temperatures are usually more than 22 °C, with average maximum temperatures between 34°C and 36 °C and average minimum temperatures between 6°C and 8 °C (Mendelsohn, Jarvis, Roberts & Roberston, 2002).

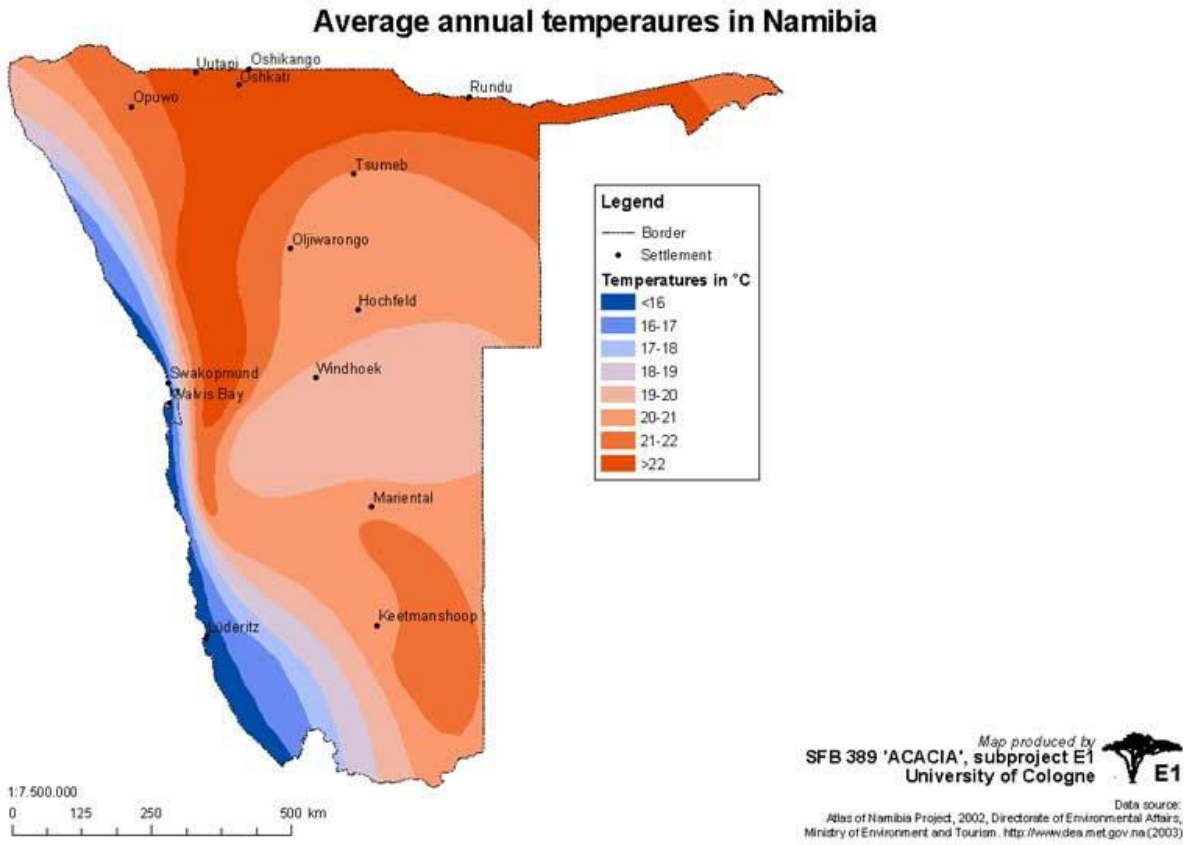


Figure 3: Annual average temperature (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/e1_download_climate_e.htm#temperature_annual)

The subject area generally experiences more rainfall than the south and west of the country with an average rainfall of 350 to 550 mm as indicated in **Figure 4** below.

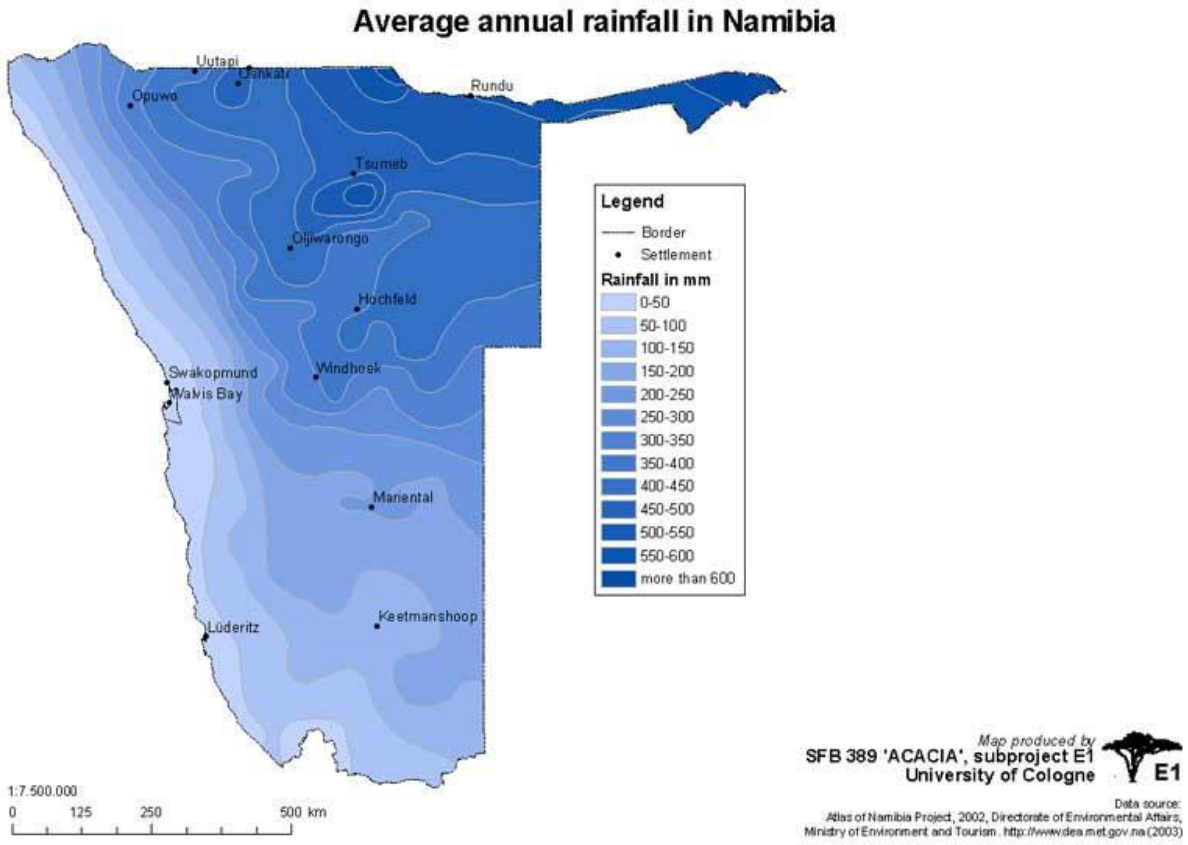


Figure 4: Average annual Rainfall (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/climate/rainfall-annual.jpg)

3.2.2 Topography, Geology and Soils

The Oshana Region forms part of the Kalahari Group Geological division depicted in pale yellow in **Figure 5** below. The dominant soils within the area are predominantly deep Kalahari and Namib sand that mostly occur in the formation of sands and other sedimentary materials, while the clay sodic sands dominate in the Oshanas (Mendelsohn *et al.*, 2002).

The slope of the subject area is generally flat, and the soil conditions and topography are suitable for the proposed townships development.

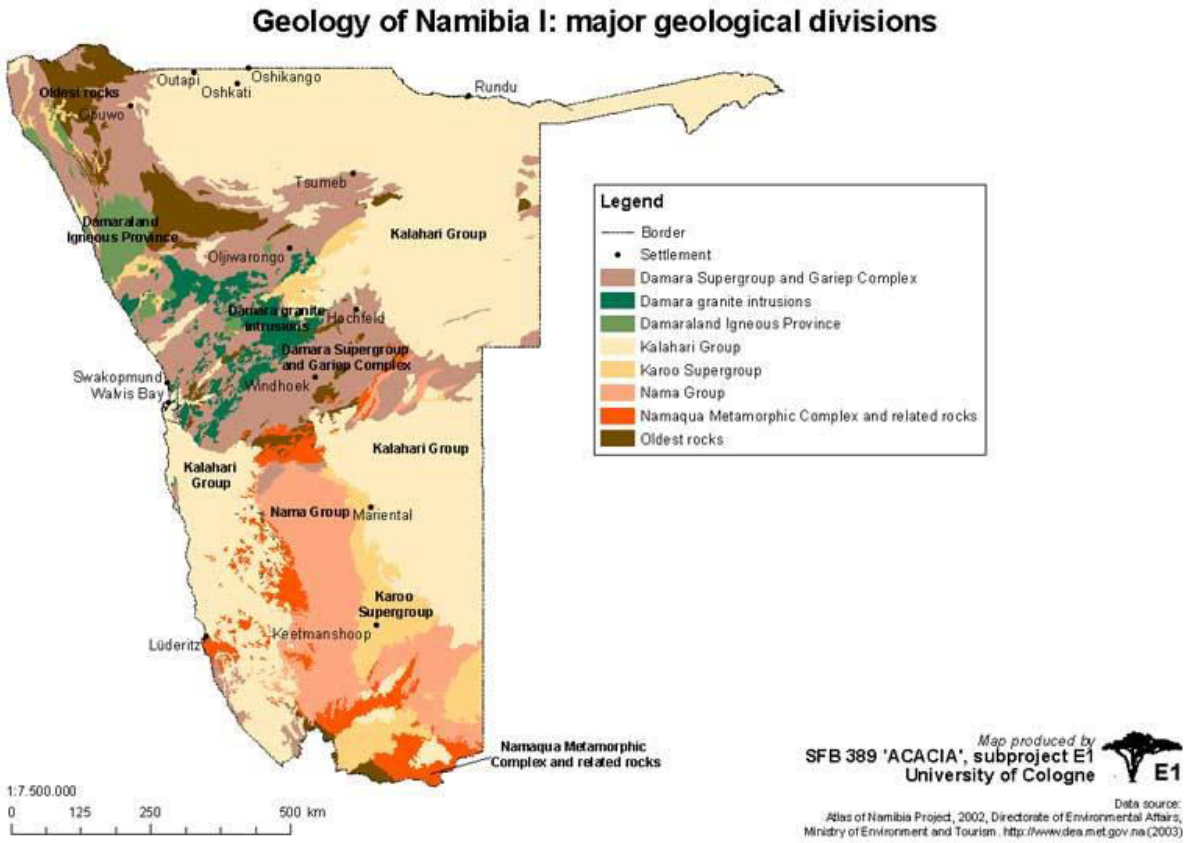


Figure 5: Geology of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/physical/geology.jpg)

3.2.3 Hydrology and Hydrogeology

In terms of groundwater, the area falls within the Cuvelai-Etosha groundwater basin as depicted in **Figure 6** below. The hydrogeological Cuvelai Basin comprises the Omusati, Oshana, Ohangwena, and Oshikoto Regions and parts of the Kunene Region (Ministry of Agriculture Water and Rural Development, 2011). The groundwater of the Cuvelai Basin is relatively shallow but mostly brackish or saline. All groundwater within the basin flows towards the Etosha Pan (Ministry of Agriculture Water and Rural Development, 2011).

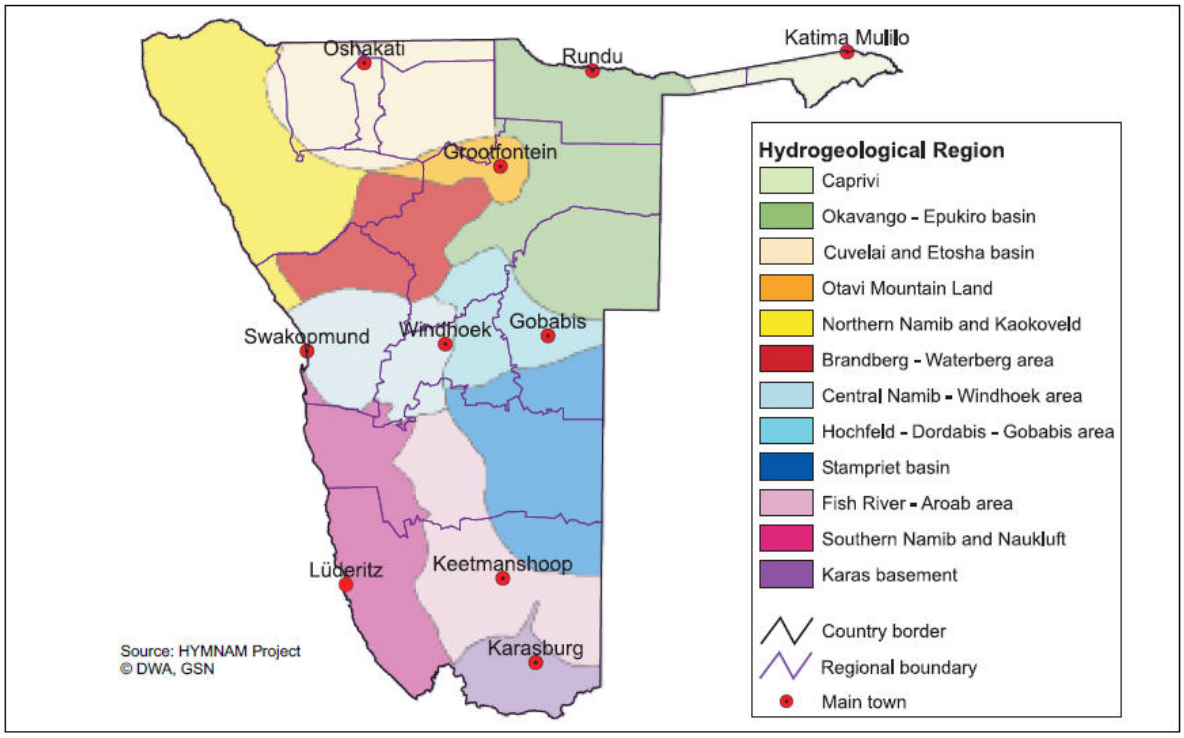


Figure 6: Groundwater basins and hydrogeological regions in Namibia

The Cuvelai Basin consists of thousands of drainage channels or oshanas which flow during the rainy season. The oshanas are "shallow, often vegetated and poorly defined, interconnected flood channels and pans through which surface water flows slowly or may form pools depending on the intensity of the floods ("efundja")" (Ministry of Agriculture Water and Rural Development, 2011).

The Cuvelai Basin is one of the most densely populated areas in the country with most communities living in rural areas largely dependent on agriculture (Ministry of Agriculture Water and Rural Development, 2011). The villages and towns located within the Cuvelai Basin are supplied with water from the Calueque Dam, north of the Angolan border, via an extensive system of canals and pipelines. "Water stored in the Calueque Dam on the Kunene River just north of the border is pumped via a canal to the Olushandja Dam in Namibia, from where it is gravity fed via a concrete-lined canal to Oshakati" (Ministry of Agriculture Water and Rural Development, 2011).

Surface water is only available during the rainy season, people rely on other water sources during the dry season. As such groundwater is sourced in the region through dug wells and boreholes.

Most of the settlements within the Cuvelai basin experience flooding during the rainy season. Oshakati is no exception, however the developed part of the town generally is not severely affected by these seasonal flood occurrences as it is developed on higher ground than the surrounding Oshana areas (Stubenrauch Planning Consultants, 2016). This however cannot be said for the extended Townlands which experiences greater flooding challenges (Lithon Project Consultants, 2016).

Lower lying areas within town coupled with increasing run-off during flood occurrences pose a challenge for stormwater management. As such it is essential that stormwater management systems be implemented within town. Flooding occurring in Oshakati results mainly from local run-off that cannot drain away to the nearby iishana (Lithon Project Consultants, 2016).

The subject area is not subject to flooding. Provision for storm water run-off can however be made within the new street reserves to be created.

3.3 TERRESTRIAL ECOLOGY

3.3.1 Flora and Fauna

The Oshana Region falls within the broader Tree-and-Shrub Savanna Biome and forms part of the Acacia Tree-and-shrub Savanna sub-biome. The Acacia Tree-and-shrub Savanna sub-biome is characterized by large, open expanses of grasslands dotted with Acacia trees (Mendelsohn *et al.*, 2002). The trees within this biome are tallest in the east where they grow in deeper sands and become more shrub-like to the west where they grow in shallower soils.

The region falls within the Cuvelai Drainage vegetation type. Within north-central Namibia, Mopane is a very common tree species in the Cuvelai Drainage where grassy channels of oshana carry floodwater during heavy rains from the higher areas in the north of Angola (Mendelsohn & el Obeid, 2005). The indigenous trees found within the region include the Makalani Palm Trees (*Hyphaene petersiana*) and Mopane Trees (*Colophospermum mopane*). If removal of protected tree species is required a permit needs to be obtained from the local Department of Forestry prior to removal. Trees protected under the Forestry Act 12 of 2001 should be protected within the layout of the proposed development.

Most wildlife is located within the Etosha National Park and thus it is mostly animals such as cattle, donkeys and goats which are dominant within the subject area.

The proposed development is located within the urban locality of Ondangwa as such the area has already been developed and can therefore not be considered to be pristine. The natural vegetation within the area has been disturbed by human activities but does accommodate some trees scattered within the proposed sites which need to be considered in the proposed layouts of the development.

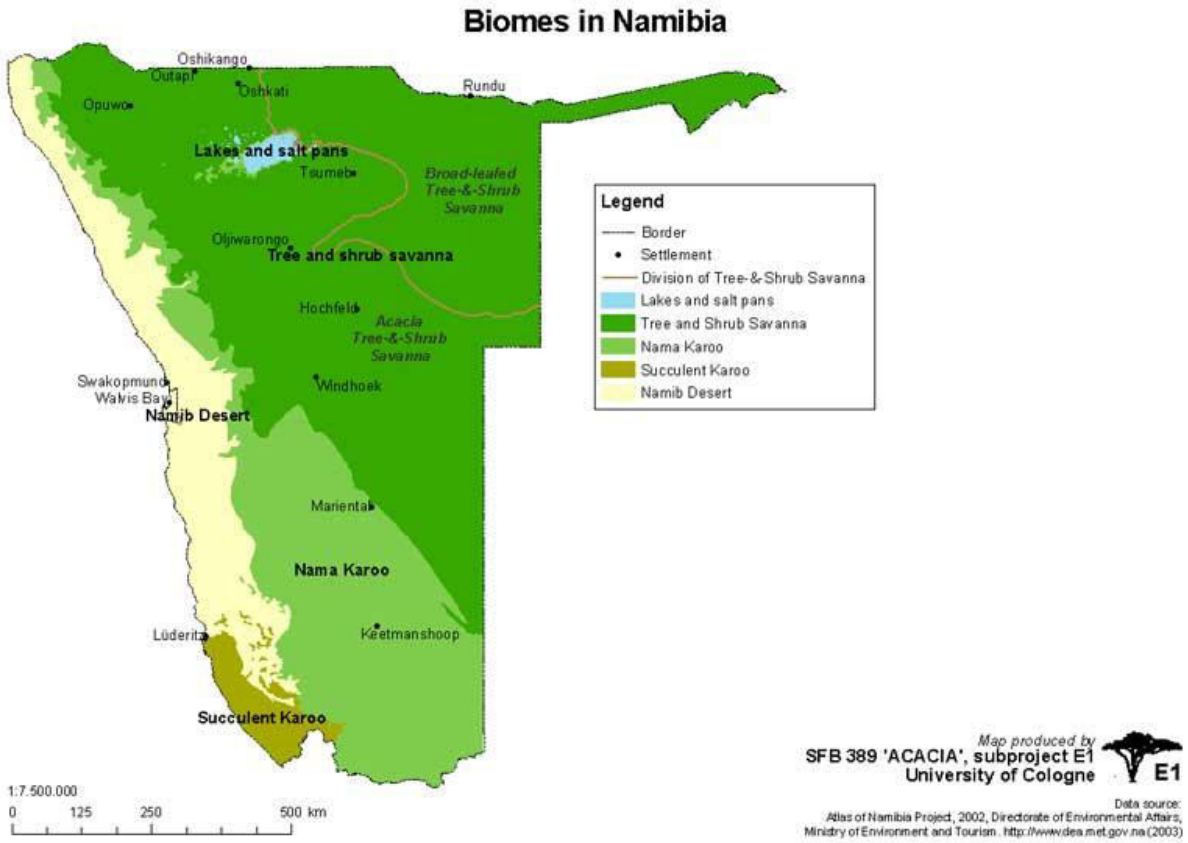


Figure 7: Biomes of Namibia (http://www.uni-koeln.de/sfb389/e/e1/download/atlas_namibia/pics/living_resources/biomes.jpg)

4 PROJECT DESCRIPTION

4.1 PROJECT COMPONENTS

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

- **Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and Remainder;**
- **Layout approval and township establishment on Portion A of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Proper;**
- **Reservation of the Remainder of Portion A of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Layout approval and township establishment on Portion B of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Extension 1;**
- **Reservation of the Remainder of Portion B of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Inclusion of Omashaka Proper and Extension 1 in the next Zoning Scheme to be prepared for Ondangwa.**

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 layouts alternatives were initially considered by the proponent, ultimately resulting in the final layouts. As such only the no-go alternative will be discussed below.

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 of uncontrolled informal settlement growth. Thus, the Ondangwa Town Council and the residents will not be able to receive the benefits which may result from the construction and operational phase of the development and the residents will not benefits from the land tenure securities. The residents will not be able to expand their financial security, as they will be able to use these land rights to expand their business, renovate their homes, pass their homes on to their dependants in the form of inheritance, which all works towards wealth generation and economic empowerment. Thus, the no-go alternative is not considered to be the preferred option.

4.3 THE PROPOSED DEVELOPMENT

The Ondangwa Town Council intends to formalize the existing Omashaka informal settlement and create additional properties that will cater to the varying property needs for the residents of Ondangwa. This will be done through by the establishment of two townships to be known as Omashaka Proper and Omashaka Extension 1.

The proposed Omashaka Proper and Omashaka Extension 1 are merely a formalization of the Omashaka Informal Settlement which has been in existence for many years. The proposed Omashaka Proper measures **30.60 ha** in extent while Omashaka Extension 1 measures **35.53 ha** in extent.

The Omashaka Informal Settlement that is to be formalized is partly built up with mainly local business structures and a few traditional households and mahangu fields which have been fairly incorporated into the layout plans for Omashaka Proper and Extension 1. The most predominant land use in Omashaka Informal Settlement is mainly "Residential" dwellings, and the second most predominant land use is "Business". These have all been accommodated to ensure that after this formalisation exercise, the residents will continue to live and work in their neighbourhood, with as minimal disturbances as possible.

The existing non-residential land uses, such as the existing shops, Public Open Spaces and streets are respected in the layout designs. This results in the creation of some relatively narrow street reserves within the built-up areas; these are however considered to be functional due to the short street lengths and slow traffic speeds maintained along these streets. The need to cater for wider street reserves along the periphery of the development is however acknowledged. In addition to this, the properties have been demarcated as determined by the residents of the neighbourhood, in order to avoid land disputes between the residents of Omashaka.

The aims of the two townships establishment are to formalize the existing situation on the ground, and to provide additional residential erven to help cater to the increasing demand for residential properties in the town of Ondangwa. The proposed Omashaka Proper township comprises of 349 erven and the Remainder which is reserved for the streets while the proposed Omashaka Extension 1 comprises of 261 erven and the Remainder which is also reserved for the streets.

This formalisation, as proposed will enable the Ondangwa Town Council to provide tenure security to the residents of Omashaka, through the provision of freehold land rights.

Omashaka which is being subdivided into two townships contains easily identifiable local rivers as well as local ponds, in which storm water flows. Due to how often these rivers and ponds fill up with water during the rainy seasons, they have mostly been accommodated and respected in the proposed layouts for both Omashaka Proper and Omashaka Extension 1.

The area is located on higher grounds, limiting the effect of possible inundations from the natural stormwater drainage lines (iishana) which surround the subject area. The subject areas comprise of natural storm water ponds which have been respected and accommodated as "public Open Spaces" in the two proposed layout plans for the two townships.

The formalization of the earmarked sections of Omashaka are to be conducted as discussed in **4.3.1 and 4.3.2** below. The following town planning steps are required to facilitate the intended development:

- **Subdivision of the Remainder of the Farm Ondangwa Town and Townlands No. 882 into Portion A, B and Remainder;**
- **Layout approval and township establishment on Portion A of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Proper;**
- **Reservation of the Remainder of Portion A of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Layout approval and township establishment on Portion B of the Farm Ondangwa Town and Townlands No. 882 to become known as Omashaka Extension 1;**
- **Reservation of the Remainder of Portion B of the Farm Ondangwa Town and Townlands No. 882 as "Street";**
- **Inclusion of Omashaka Proper and Extension 1 in the next Zoning Scheme to be prepared for Ondangwa.**

4.3.1 The Subdivision

The Remainder of the Farm Ondangwa town and townlands north no. 882 is to be subdivided into Portion A, B and Remainder as outlined in **Table 5** below and as depicted on **Figure 8** below. The proposed Portion A is to be utilised for the establishment of the proposed Omashaka Proper. Whereas the proposed Portion B is to be utilised for the establishment of the proposed Omashaka Extension 1 and the Remainder is to remain zoned "Undetermined", to allow for the flexibility of the future urban development.

Table 5: Subdivision of the Farm Ondangwa town and townlands north no. 882

Erf No	Zoning	±Area (ha)
A	Undetermined	30.60
B	Undetermined	35.53

The land utilisation table (**Table 6**) below depicts the apportionment of the land on Portion A of the Remainder of the Farm Ondangwa Town and Townlands No. 882 for the establishment of the proposed township to be known as Omashaka Proper.

Table 6: Land Utilisation Index for Omashaka Proper

Zoning	No of Erven	Area (ha)	Spatial implication (%)
Single Residential	288	12.78	36.77
Business	54	2.77	8.40
Cemetery	1	0.24	0.72
Private Open Space	1	0.11	0.33
Public Open Space	5	8.75	26.53
Street	Remainder	8.33	25.26
TOTAL	**349 and Remainder**	**32.97**	**100.00**

The land utilisation table (**Table 7**) below depicts the apportionment of the land on Portion B of the Remainder of the Farm Ondangwa Town and Townlands No. 882 for the establishment of the proposed township to be known as Omashaka Extension 1.

Table 7: Land Utilisation Index for Omashaka Extension 1

Zoning	No of Erven	Area (ha)	Spatial implication (%)
Single Residential	252	11.52	38.59
General Residential	1	0.50	1.66
Institutional	1	0.26	0.88
Public Open Space	6	12.13	40.64
Street	1	0.59	1.98
Street	Remainder	4.85	16.25
TOTAL	**261 and Remainder**	**29.85**	**100.00**

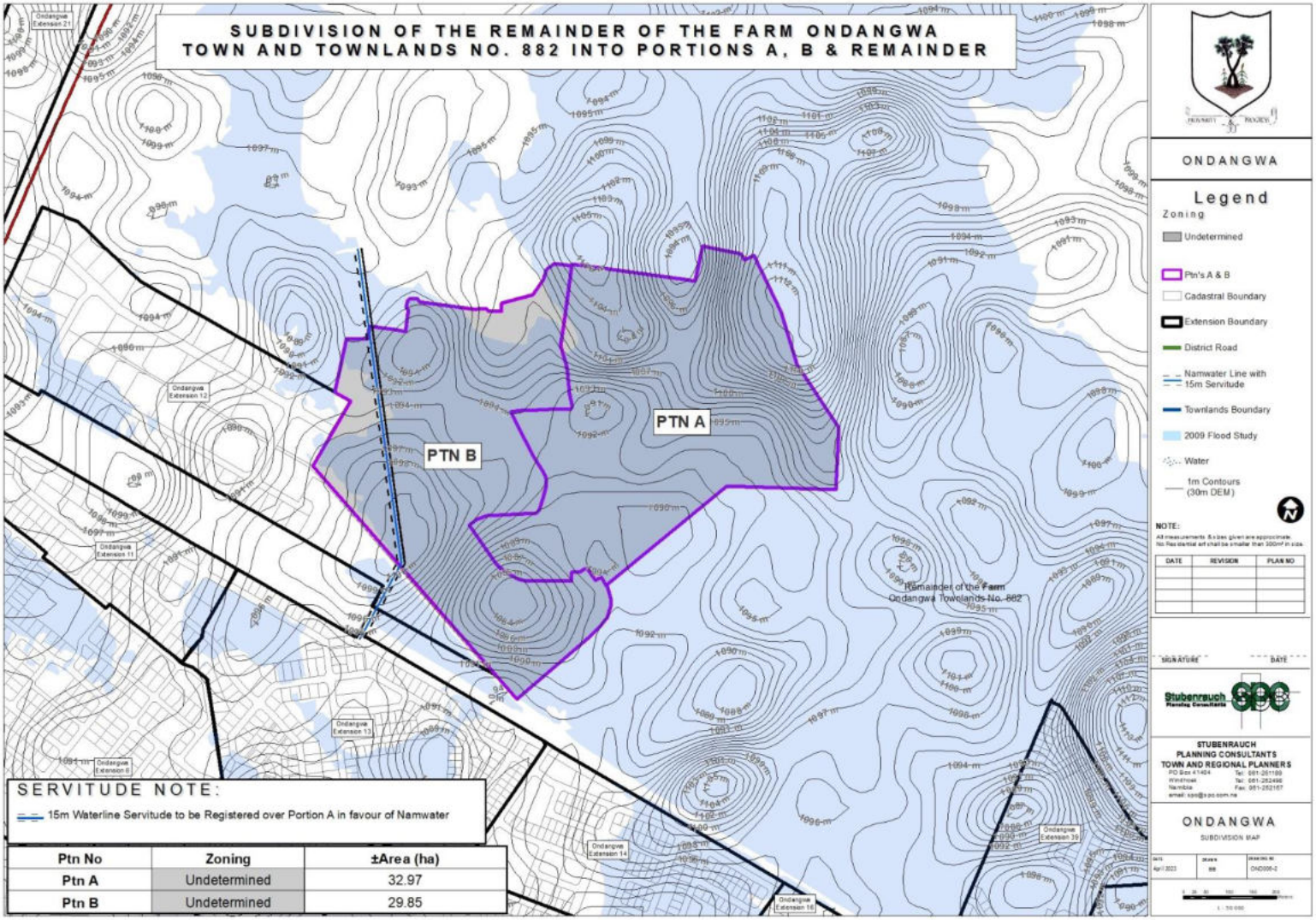


Figure 8: Subdivision of the Remainder of the Farm Ondangwa town and townlands north no. 882 into portion A, B, and the Remainder

4.3.2 Layout plan for Portion A to be known as Omashaka Proper

The layout plan for the proposed township of Omashaka Proper which is to be established on the proposed Portion A of the Remainder of the Farm Ondangwa Town and Townlands No. 882 seeks to provide the maximum number of residential properties on the developable area, while preserving the existing local business node of Omashaka and accommodating the existing traditional homesteads as much as possible, to avoid casualties and limiting the need for compensations which tend to be costly. The neighbourhood will be of predominantly residential character as Council seeks to create a maximum number of residential properties to help cater to the increasing demand for serviced residential land in Ondangwa. The draft layout plan for Omashaka Proper comprises of 349 erven and the Remainder.

The layout plan proposed for Omashaka Proper comprises of 349 erven that vary in sizes as they follow the existing informal property boundaries to ensure that all the structures belonging to a particular individual are accommodated within one erf as identified during the household survey. This was also done to maintain peace and avoid the creation of land disputes within the existing neighbourhood of Omashaka Proper. The layout plan proposed for the Omashaka Proper to be established on the subdivided Portion A of the Remainder of the Farm Ondangwa Town and Townlands No. 882 has the following distinct features:

- 288 “Single Residential” erven have been provided for in the layout plan for Omashaka Proper some of which accommodate the existing houses on the site, while the remaining erven are vacant. The “Single Residential” erven within the proposed Omashaka Proper collectively utilise about 12.78ha of the total area for Portion A on which the township is to be established.
- 54 erven collectively measuring approximately 2.77ha in extent have been zoned for “Business” purposes to accommodate mostly the existing business structures in the area as well as new business activities in Omashaka Proper as identified throughout the household surveys and field work.
- There is one (1) erf zoned “Cemetery” provided for in the layout measuring at least 0.24ha and in accordance with the Ondangwa Zoning Scheme, the earmarked burial ground will serve the residents of the neighbourhood of Omashaka as well as surrounding areas.
- There is one (1) erf zoned “Private Open Space” provided for in the layout measuring approximately 0.11ha to accommodates “Sports and Recreational” activities for the future development of a sports field and Recreational” activities that will serve the neighbourhood of Omashaka and the surrounding areas.
- The five (5) erven with a total area of approximately 8.75ha have been zoned for “Public Open Spaces” (POS) purposes in the layout plan for the proposed Omashaka Proper. The largest “Public Open Spaces” provided for accommodate the natural stormwater channels (iishana) and ponds that accommodate the seasonal rainwater. The POS provided in the layout south

of the proposed Omashaka Proper serves as a buffer between the proposed Omashaka Proper and the existing Ondangwa Extension 16.

- The Remainder of the proposed Portion A of the Remainder of the Farm Ondangwa Townlands No. 882 will serve as “Street” providing access to the various erven within the proposed Omashaka Proper and ensuring ease of movement and connectivity within the neighbourhood and the surrounding areas. The width of the roads in the proposed township ranges between 13m to 18m.
- The internal streets can be used to channel stormwater out of the development into the sub-reginal drainage system.
- Some erven have no direct access to the streets and will be accessed via 4m wide panhandles.

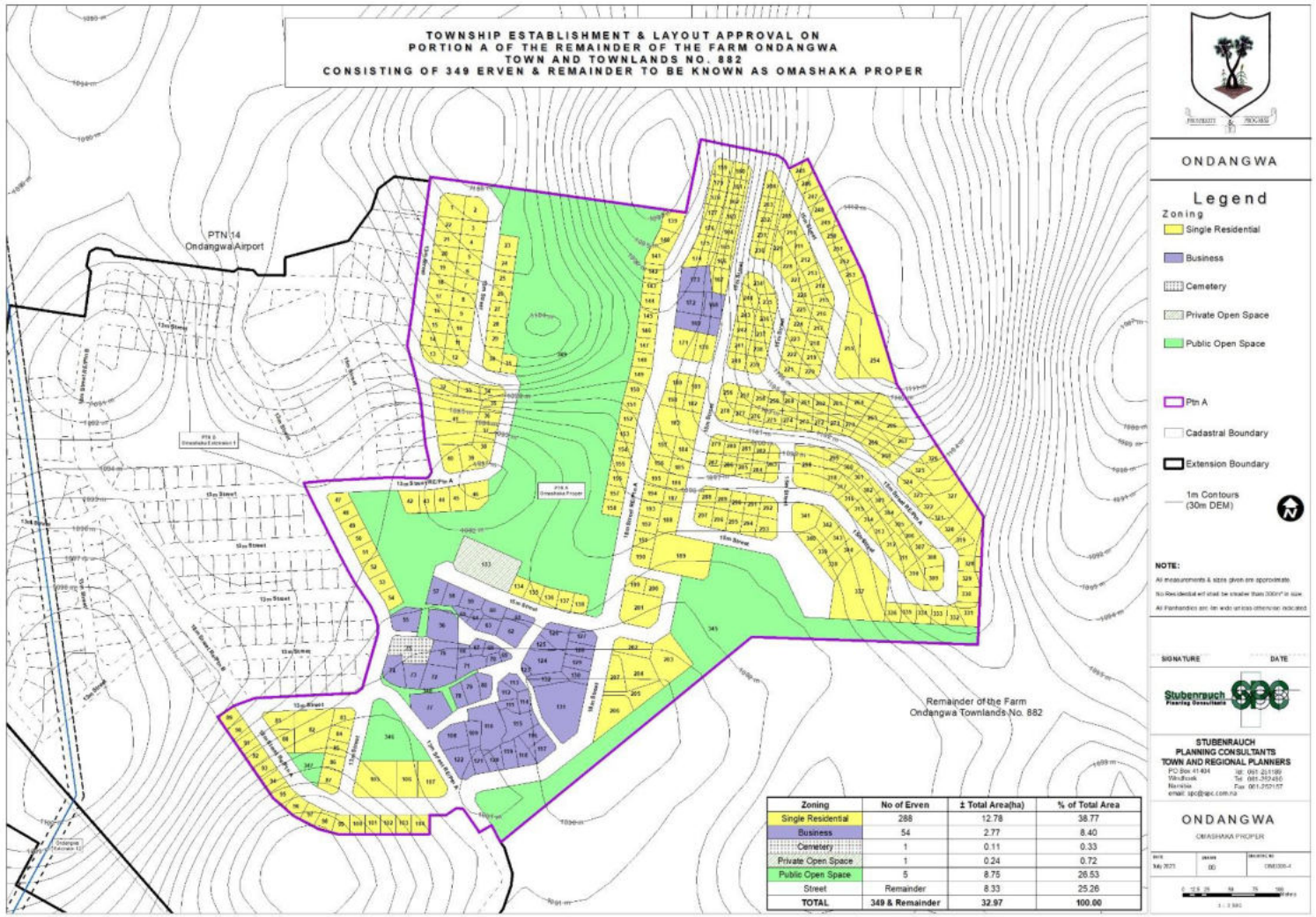


Figure 9: Township Establishment and layout approval of Omashaka Proper

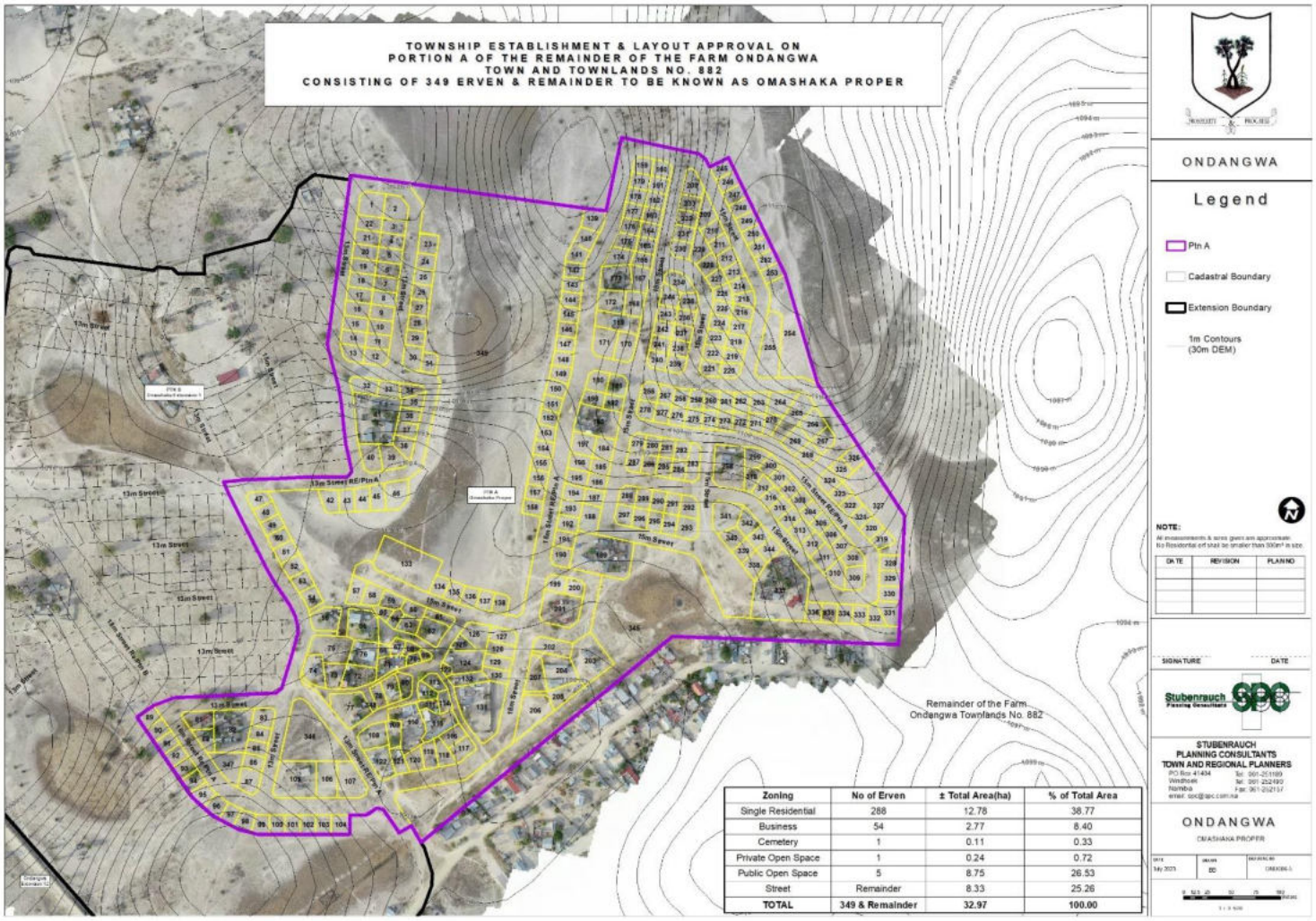


Figure 10: Aeria map of the proposed Township Establishment and layout approval of Omashaka Proper

4.3.3 Layout plan for Portion B to be known as Omashaka Extension 1

The layout plan for the proposed township of Omashaka Extension 1 which is to be established on Portion B of the Remainder of the Farm Ondangwa Town and Townlands No. 882 seeks to provide the maximum number of residential properties on the developable area, while preserving and accommodating the existing traditional homesteads as much as possible, to avoid casualties and limiting the need for compensations which tend to be costly. The neighbourhood will be of predominantly residential character as Council seeks to create a maximum number of residential properties to help cater to the increasing demand for serviced residential land in Ondangwa. The draft layout plan for Omashaka Proper comprises of 261 erven and the Remainder.

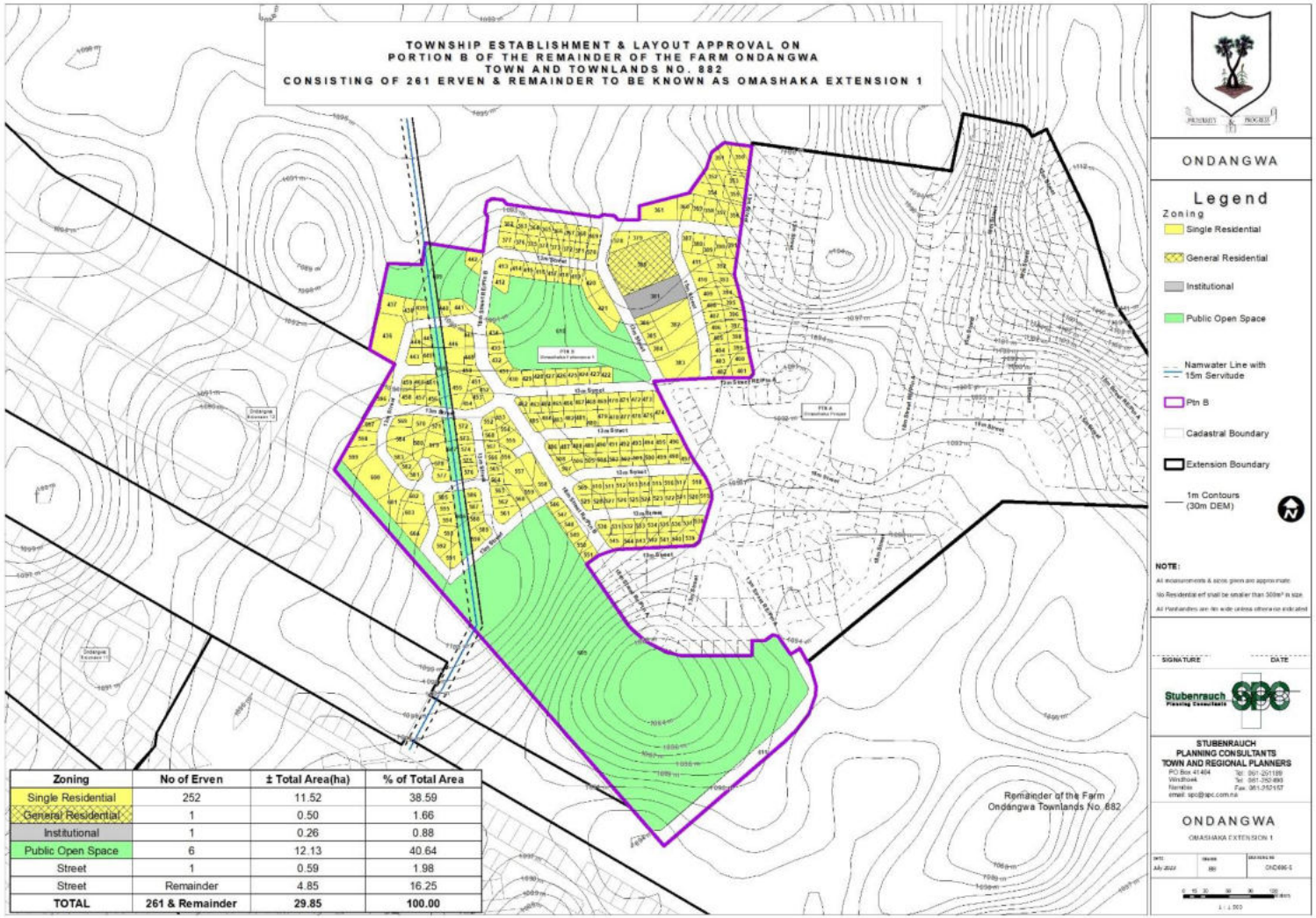
The layout plan proposed for Omashaka Proper comprises of 261 erven that vary in sizes as they follow the existing informal property boundaries to ensure that all the structures belonging to a particular individual are accommodated within one erf as identified during the household survey. This was also done to maintain peace and avoid the creation of land disputes within the existing neighbourhood of Omashaka Extension 1. The layout plan proposed for the Omashaka Extension 1 to be established on the subdivided Portion B of the Remainder of the Farm Ondangwa Town and Townlands No. 882 has the following distinct features:

- 252 “Single Residential” erven have been provided for in the layout plan for Omashaka Extension 1 some of which accommodate the existing traditional homesteads on the site, while the remaining erven are vacant. The “Single Residential” erven within the proposed Omashaka Extension 1 collectively utilise about 11.52ha of the total area for Portion B on which the township is to be stablished.
- There is one (1) “General Residential” erf provided for in the layout plan measuring approximately 0.50ha in extent. The property will accommodate any suitable “General Residential” land uses permitted on such land use zoning by the Ondangwa Zoning Scheme.
- There is one (1) erf zoned “Institutional” provided for in the layout plan collectively measuring about 0.26ha in extent. The erf is to be utilised for land uses permitted on “Institutional” zoned land by the Ondangwa Zoning Scheme.
- The six (6) “Public Open Spaces” erven provided for in the layout plan with a total area of approximately 12.13ha in extent for the proposed Omashaka Extension 1. The largest “Public Open Space” provided for in the draft layout plan accommodate the natural stormwater channels (iishana) and ponds that accommodate the seasonal rainwater and it also serve as a buffer between the proposed development and the existing railway line.
- The Remainder of the proposed Portion B of the Remainder of the Farm Ondangwa Townlands No. 882 will serve as “Street” providing access to the various erven within the proposed Omashaka Extension 1 and ensuring ease of movement and connectivity within the

neighbourhood and the surrounding areas. The width of the roads in the proposed township ranges between 13m to 18m.

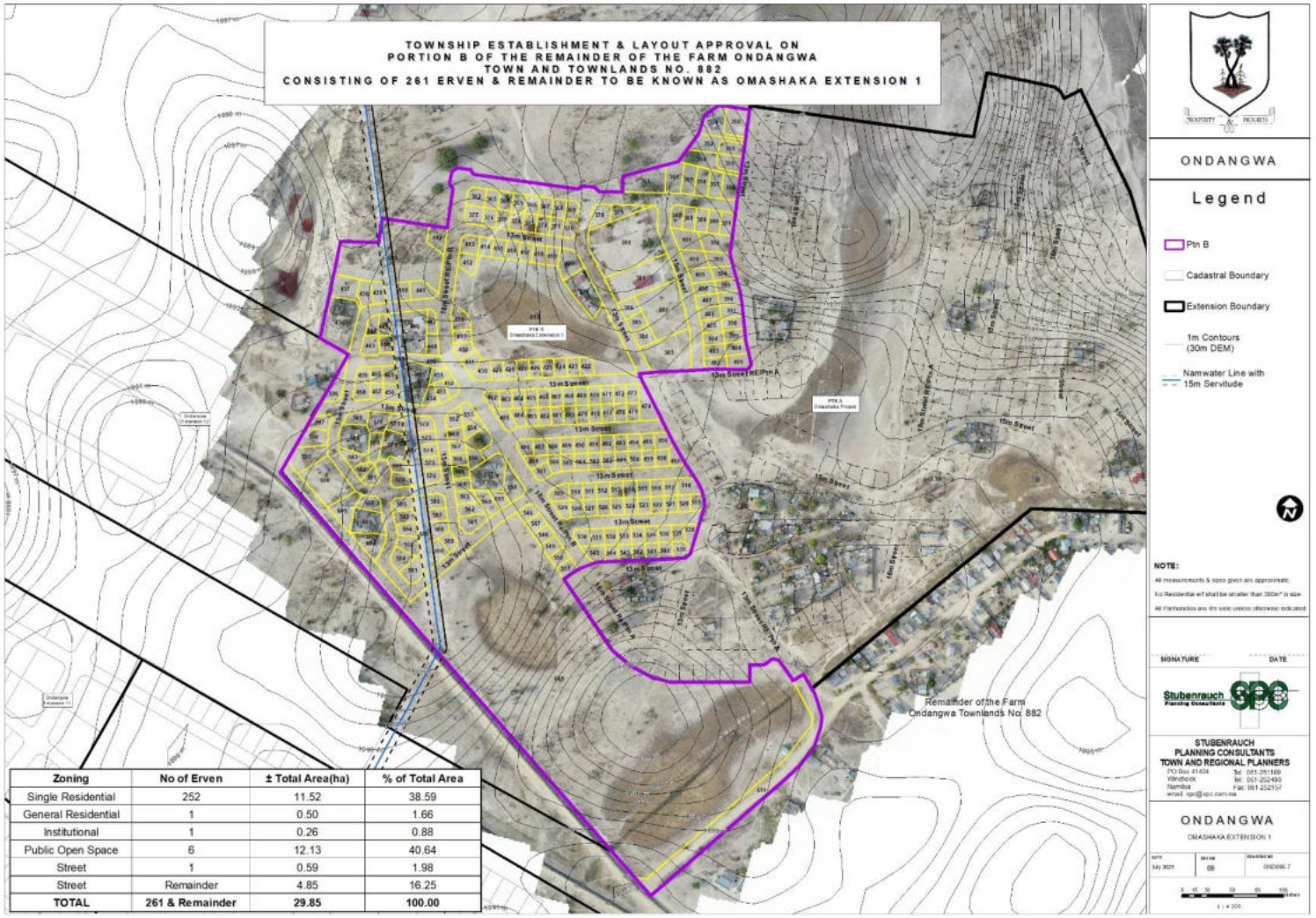
- The internal streets can be used to channel stormwater out of the development into the sub-reginal drainage system.
- Some erven have no direct access to the streets and will be accessed via 4m wide panhandles.

The layout designs for the two townships are considered as a formalisation of the existing urban environment, which are informed by the existing buildings and access to properties. The proposed townships will retain their current uses and functions of the subject areas. The 15m wide Waterline servitude running across the Remainder of the Farm Ondangwa Town and Townlands No. 882 does not prohibit nor hinder the proposed development of Omashaka Proper and Extension 1. This servitude has been accommodated within the “Public Open Space” in the proposed layout plan of Omashaka Extension 1.



Zoning	No of Erven	± Total Area(ha)	% of Total Area
Single Residential	252	11.52	38.59
General Residential	1	0.50	1.66
Institutional	1	0.26	0.88
Public Open Space	6	12.13	40.64
Street	1	0.59	1.98
Street	Remainder	4.85	16.25
TOTAL	**261 & Remainder**	**29.85**	**100.00**

Figure 11: Township Establishment and layout approval of Omashaka Extension 1



Zoning	No of Erven	± Total Area(ha)	% of Total Area
Single Residential	252	11.52	38.59
General Residential	1	0.50	1.66
Institutional	1	0.26	0.88
Public Open Space	6	12.13	40.64
Street	1	0.59	1.98
Street	Remainder	4.85	16.25
TOTAL	**261 & Remainder**	**29.85**	**100.00**

Figure 12: Aeria map of the proposed Township Establishment and layout approval of Omashaka Extension 1

4.3.4 Engineering Services and Access Provision

4.3.4.1 Water and Sewer

The proposed Omashaka Proper and Extension 1 to be established on Portion A and B of the Remainder of the Farm Ondangwa Town and Townlands No. 882 will be connected to the municipal reticulation system of water and sewer provided by the Ondangwa Town Council, which is to be extended to the proposed township. The design for the extension of these services will be done in accordance and to the satisfaction of the Engineering and Technical Services Department of the Ondangwa Town Council.

4.3.4.2 Electricity

The proposed Omashaka Proper and Extension 1 to be established on Portion A and B of the Remainder of the Farm Ondangwa Town and Townlands No. 882 will be connected to the NORED electricity distribution grid which currently provides electrical power to the town of Ondangwa. The extension of the electricity connection will be done in accordance and to the satisfaction of NORED.

4.3.4.3 Road and Storm Water

A 15m wide street reserve has been created to provide access to the erven created within the proposed Omashaka Proper and Extension 1 and will simultaneously connect the proposed townships to the surrounding areas. Access within the neighborhood of the proposed Omashaka Proper and Extension 1 will be obtained via. Erven with no direct access to the streets will be accessed via 4m wide panhandles.

Stormwater is drained as per the natural drainage system on the site and additional storm water drainage and management measures will be employed in accordance with the Ondangwa Town Council Drainage System. The new street created within Omashaka Proper and Extension 1 which is to provide access to the abutting individual erven is to be used to drain any local stormwater out of the new development.

4.3.4.4 Access Provision

The development of Omashaka Proper and Extension 1 will be accessed via existing internal streets of Ondangwa. Thus, no access approval is required from the Roads Authority for this application.

5 PUBLIC PARTICIPATION PROCESS

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 8** below for the activities undertaken as part of the public participation process. The I&APs were given time to comment from **18 April 2023 to 24 May 2023.**

Table 8: Table of Public Participation Activities

ACTIVITY	REMARKS
Placement of site notice/poster in Oshakati	See **Annexure A**
Placing advertisements in two newspapers namely the Namibian and New Era (**18 April 2023 and 25 April 2023**)	See **Annexure B**
Written notice to surrounding property owners and Interested and Affected Parties via Email (**18 April** 2023)	See **Annexure C**
A public meeting held on **8 May 2023** at 10h00 at the Marula Tree, Omashaka (Pomugongo)	See **Annexure C**

The public meeting was attended by the consultants, representatives of the proponent, the Ondangwa Town Councillors, and affected Omashaka dwellers as well as other affected parties. Mr. Ndeikonghola welcomed the consultant and all present. The meeting was opened with a prayer whereafter Mr. Ndeikonghola and Ms. Iipumbu explained the layout design and the supporting land uses. Ms. Iipumbu further went on to explain the environmental impact assessment process and present the identified environmental concerns to date, whereafter those present were given the opportunity to ask questions, provide inputs/comments as well as register as an interested and affected person.

The meeting was presented in English and translated in Oshiwambo.

Based on the public participation data, it shows that there were few concerns raised by the I & APs in line with the proposed development and all concerns. The general public and all stakeholders attended the meeting raised few environmental concerns regarding the development all concerns are considered, rectified and incorporated/amended in the layouts.

The questions and inputs raised during the meetings are reflected in the Public Meeting Minutes **See Annexure C.** There are no comments received during the draft period, therefore, the public interest on this project is minimal.

5.1.1 Environmental Assessment Phase 2

The second phase of the PPP involved 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 **29 September 2023**. An Executive Summary of the DESR was also included in the letters to the registered I&APs. I&APs had until **13 October 2023** 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 9**.

Table 9: Impact Assessment Criteria

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

CRITERIA	CATEGORY
	Medium: Natural and/or social functions/processes are notably altered in a modified way **High:** Natural and/or social functions/processes are severely altered and may temporarily or permanently cease
Probability of occurrence Describe the probability of the Impact actually occurring	**Improbable:** Not at all likely **Probable:** Distinctive possibility **Highly probable:** Most likely to happen **Definite:** Impact will occur regardless of any prevention measures
Degree of Confidence in predictions State the degree of confidence in predictions based on availability of information and specialist knowledge	**Unsure/Low:** Little confidence regarding information available (<40%) **Probable/Med:** Moderate confidence regarding information available (40-80%) **Definite/High:** Great confidence regarding information available (>80%)
Significance Rating The impact on each component is determined by a combination of the above criteria.	**Neutral:** A potential concern which was found to have no impact when evaluated **Very low:** Impacts will be site specific and temporary with no mitigation necessary. **Low:** 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 **Medium:** 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. **High:** 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.

*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 13** 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 13: Mitigation Hierarchy

Impact avoidance: This step is most effective when applied at an early stage of project planning. It can be achieved by:

- not undertaking certain projects or elements that could result in adverse impacts;
- avoiding areas that are environmentally sensitive; and
- putting in place preventative measures to stop adverse impacts from occurring.

Impact minimization: This step is usually taken during impact identification and prediction to limit or reduce the degree, extent, magnitude, or duration of adverse impacts. It can be achieved by:

- scaling down or relocating the proposal;
- redesigning elements of the project; and
- taking supplementary measures to manage the impacts.

Restoration: This step is taken to improve degraded or removed ecosystems following exposure to impacts that cannot be completely avoided or minimised. Restoration tries to return an area to the original ecosystem that occurred before impacts. Restoration is frequently needed towards the end of a project's life cycle but may be possible in some areas during operation.

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

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 MEFT: DEAF for consideration. In turn, MEFT: DEAF'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 intended development may have an impact on traffic in the subject area as the sites are currently undeveloped. Once the proposed sites are developed traffic in the area is expected to increase. The traffic is not expected to increase significantly as the portions are in close proximity to an already developed area within the town.

7.2.2 Existing Service Infrastructure Impacts

The proposed townships are to be connected to the necessary services of the town. Once the sites become developed the increasing demand on the existing services would have to be determined and additional services would have to be provided for if needed.

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)

The proposed development will not change the character of the neighbourhood as it is merely a formalization of an existing informal settlement, which has been in existence for many years with no reports of any detrimental impact to the natural and urban environment of Ondangwa. The land uses that currently exist in the area, the natural environment and drainage patterns are respected, and as such, no negative impacts on the natural or urban environment of Ondangwa are expected to arise from the proposed township establishments. The physical land use for the property will also not negatively impact the natural environment as most of the vegetation found on-site will be respected in all the town planning processes for Omashaka Proper and Extension 1.

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 minimized by the fact that the construction phase will be a short-term activity.

The area is located on higher grounds, limiting the effect of possible inundations from the natural stormwater drainage lines (iishana) which surround the subject area.

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-EONOMIC 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. Section 3.1.2 provides an overview of the archaeological and heritage context of the town and region.

7.4.2 Health, Safety and Security Impacts

Due to the demand for construction workers during the construction of the proposed project an influx of migrant workforce who will require temporary accommodation in Ondangwa might be experienced. Experience with other construction projects in a developing-world context has shown that, where migrant construction workers have the opportunity to interact with the local community, a significant risk is created for the development of social conditions and sexual behaviors that contribute to the spread of HIV and AIDS.

In response to the threat the pandemic poses, MEFT has developed a policy on HIV and AIDS. This policy, which was developed with support from USAID, GTZ and the German Development Fund, provides for a non-discriminatory work environment and for workplace programs managed by a Ministry-wide committee. The MEFT has also recently initiated a programme aimed at mainstreaming HIV and gender issues into environmental impact assessments.

7.4.3 Traffic Impacts

Traffic is expected to increase during the construction phase of the project in areas where construction will take place. A number of trucks and other heavy machinery will be required to deliver, handle and position construction materials as well as to remove spoil material. Not only will the increase in traffic result in associated noise impacts, but it will also impact on the roads in the area.

7.4.4 Noise Impacts

Construction may result in associated noise impacts. These noise impacts will mainly be associated with construction machinery and construction vehicles. The impact is however limited mainly to the construction period only.

7.4.5 Dust and Emission Impacts

Excavation and stockpiles during the construction phase could result in dust impacts, if not managed correctly. Dust could impact negatively on the health of the nearby community if mitigation measures are not implemented. Dust impacts are primarily associated with the construction phase.

7.4.6 Municipal Services

The construction phase will result in additional people on-site, who will require provision of the following services:

- Potable water for domestic (ablution and drinking) and construction purposes.
- Temporary toilets during the construction phase.

- Solid waste management (domestic and construction waste).

These services if not managed well are likely to create an opportunity for water wastage; litter; solid and human waste pollution.

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 Ondangwa who frequent the sites.

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 Waste Impacts

Increased amounts of waste may be generated as a result of the operational activities at the sites. Effective waste management on site should be practiced as per the recommendations in the EMP.

7.5.5 Social Impacts

The township establishment of Omashaka as a formalisation exercise will allow for the residents of the area to obtain freehold land titles to their homes and businesses. This will allow the residents to expand their financial security, as they will be able to use these land rights to expand their business, renovate their homes, pass the homes on to their dependants in the form of inheritance, which all works towards wealth generation and economic empowerment. The formalisation can thus be recognised as an activity that will have a positive socio-economic impact for the beneficiaries, and a positive impact on the development of Ondangwa as a town.

The Ondangwa Town Council will also gain positively from the sale of the vacant properties created in the extension, which will be revenue from the sales and from the rates and taxes to be collected after the sales. The community of Ondangwa are further expected to benefit from the employment opportunities that may be offered during construction and possibly by the activities taking place at the site.

7.6 CUMULATIVE IMPACTS

The cumulative impact of the proposed developments regarding 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, operation 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 10**. The **Tables 11 – 13** 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 10: 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
PLANNING AND DESIGN PHASE										
1. Traffic Impacts	Omashaka	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
2. Proposed services	Omashaka	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
CONSTRUCTION PHASE										
3. Biodiversity (Fauna and Flora)	Omashaka	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
4. Surface & ground water	Omashaka	No mitigation	Local	Medium	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
		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
5. Soil erosion	Omashaka	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)
	No go	No mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
6. Heritage	Omashaka	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
7. Health, safety and security	Omashaka	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
8. Traffic impacts	Omashaka	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

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
9. Noise impacts	Omashaka	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
		Mitigation	Local	Neutral	Short term	Neutral	Probable	Certain	Reversible	Neutral
10. Emissions impacts	Omashaka	No mitigation	Local	Medium	Short term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	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
11. Municipal services	Omashaka	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
12. Waste	Omashaka	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Very 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
13. Hazardous Substances	Omashaka	No mitigation	Local	Low	Short term	Medium	Probable	Certain	Reversible	Medium (-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
OPERATIONAL PHASE										
1. Visual & sense of place	Omashaka	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
2. Noise	Omashaka	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

Description of potential impact	Project alternative	No mitigation / mitigation	Extent	Magnitude	Duration	Significance	Probability	Confidence	Reversibility	Cumulative impact
3. Emissions	Omashaka	No mitigation	Local	Medium-Low	Medium term	Low	Probable	Certain	Reversible	Low (-ve)
		Mitigation	Local	Low	Medium term	Very Low	Probable	Certain	Reversible	Very 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
4. Waste	Omashaka	No mitigation	Local	Low	Long term	Medium	Probable	Certain	Reversible	Medium (-ve)
		Mitigation	Local	Very low	Long 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
5. Social impact	Omashaka	No mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
		Mitigation	Local	High	Long term	Medium (+)	Probable	Probable	Reversible	Medium (+)
	No go	No mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral
		Mitigation	Local	Neutral	Long term	Neutral	Probable	Probable	Reversible	Neutral

Table 11: Proposed mitigation measures for the planning and design phase

PLANNING AND DESIGN PHASE IMPACTS	
Impact	**Mitigation Measures**
Traffic	• Ensure that road junctions have good sightlines. • Provide formal road crossings at relevant areas. • Provide for speed reducing interventions such as speed bumps at relevant road sections.
Existing Service Infrastructure	• It is recommended that alternative and renewable sources of energy be explored and introduced into the proposed development to reduce dependency on the grid. • Solar geysers and panels should be considered to provide for general lighting and heating of water and buildings. • Water saving mechanisms should be considered for incorporation within the developments in order to further reduce water demands. • Re-use of treated wastewater should be considered wherever possible to reduce the consumption of potable water.

Table 12: Proposed mitigation measures for the construction phase

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Flora and Fauna	• 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. • Prevent the destruction of protected and endemic plant species. • Prevent contractors from collecting wood, veld food, etc. during the construction phase. • 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. • The plants that are to be kept should be clearly marked with “danger tape” to prevent accidental removal.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• Regular inspection of the marking tool should be carried out. • The very important plants should be "camped off" to prevent the unintended removal or damage to these trees. • Recommend the planting of local indigenous species of flora as part of the landscaping as these species would require less maintenance than exotic species. • Transplant removed plants where possible, or plant new plants in lieu of those that have been removed. • Prevent the introduction of potentially invasive alien ornamental plant species such as; *Lantana, Opuntia, Prosopis, Tecoma*, etc.; as part of the landscaping as these species could infest the area further over time.
Surface and Ground Water Impacts	• It is recommended that construction takes place outside of the rainy season in order to limit flooding on site and surface water pollution. • No dumping of waste products of any kind in or in close proximity to surface water bodies. • Heavy construction vehicles should be kept out of any surface water bodies and the movement of construction vehicles should be limited where possible to the existing roads and tracks. • Ensure that oil/ fuel spillages from construction vehicles and machinery are minimised and that where these occur, that they are appropriately dealt with. • Drip trays must be placed underneath construction vehicles when not in use to contain all oil that might be leaking from these vehicles. • Contaminated runoff from the construction sites should be prevented from entering the surface and ground water bodies. • All materials on the construction site should be properly stored. • Disposal of waste from the sites should be properly managed and taken to the designated landfill site. • Construction workers should be given ablution facilities at the construction sites that are located at least **30 m** away from any surface water and regularly serviced.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
	• 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.
Soil Erosion	• 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. • Appropriate erosion control structures must be put in place where soil may be prone to erosion. • Checks must be carried out at regular intervals to identify areas where erosion is occurring. • Appropriate remedial actions are to be undertaken wherever erosion is evident.
Heritage	• The project management should be made aware of the provisions of the National Heritage Act regarding the prompt reporting of archaeological finds. • In the event of such finds, construction must stop, and the project management or contractors should notify the National Heritage Council of Namibia immediately.
Health, Safety and Security	• Construction personnel should not overnight at the site, except the security personnel. • Ensure that all construction personnel are properly trained depending on the nature of their work. • Provide for a first aid kit and a properly trained person to apply first aid when necessary. • Restrict unauthorised access to the site and implement access control measures. • Clearly demarcate the construction site boundaries along with signage of “no unauthorised access”. • Clearly demarcate dangerous areas and no-go areas on site. • Staff and visitors to the site must be fully aware of all health and safety measures and emergency procedures on site. • The contractor must comply with all applicable occupational health and safety requirements. • The workforce should be provided with all necessary Personal Protective Equipment where appropriate.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Traffic	• Limit and control the number of access points to the site. • Ensure that road junctions have good sightlines. • Construction vehicles need to be in a road worthy condition and maintained throughout the construction phase. • Transport the materials in the least number of trips as possible. • Adhere to the speed limit. • Implement traffic control measures where necessary.
Noise	• No amplified music should be allowed on site. • Inform immediate neighbours of construction activities to commence and provide for continuous communication between the neighbours and contractor. • Limit construction times to acceptable daylight hours. • Install technology such as silencers on construction machinery if noise levels are significantly high. • Do not allow the use of horns as a general communication tool but use it only where necessary as a safety measure.
Dust and Emission	• 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. • Construction vehicles to only use designated roads. • During high wind conditions the contractor must make the decision to cease works until the wind has calmed down. • Cover any stockpiles with plastic to minimise windblown dust. • Provide workers with dust masks.

CONSTRUCTION PHASE IMPACTS	
Impact	**Mitigation Measures**
Waste	• It is recommended that waste from the temporary toilets be disposed of at an approved Wastewater Treatment Works. • A sufficient number of waste bins should be placed around the site for the general waste. • A sufficient number of skip containers for the heavy waste and rubble should be provided for around the site. • 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.
Hazardous Substances	• 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. • Refuel vehicles in designated areas that have a protective surface covering and utilise drip trays for stationary plant.

Table 13: Proposed mitigation measures for the operational phase

OPERATIONAL PHASE IMPACTS	
Impact	**Mitigation Measures**
Visual and Sense of Place	• 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. • 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. • Visual pollutants can further be prevented through mitigations (i.e. keep existing trees, introduce tall indigenous trees; keep structures unpainted and minimize large advertising billboards).
Noise	• Do not allow commercial activities that generate excessive noise levels. • Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits. • No activity having a potential noise impact should be allowed after 18:00 hours if possible.
Emissions	• Consider tarring of the internal road network. • Manage activities that generate emissions.
Waste	• Solid waste will be collected from site regularly. • Waste should be disposed of at an appropriate local land fill, in consultation with the local authority. • No waste may be buried or burned.
Social Impacts	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

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 8**, 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 opportunities during construction as well the increased development within the area. Furthermore, the community of Ondangwa are expected to benefit from the new accommodation facility due to it providing housing and additional amenities which may not be readily available in the town.

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 MEFT: DEAF 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 FESR 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 MEFT: DEAF could be enforced as Conditions of Approval in the Environmental Authorisation, should MEFT: DEAF 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 remain vacant and undeveloped. The local community is expected to benefit from the development as a result of the potential job opportunities during construction as well as the increased development within the area. Furthermore, the community of Ondangwa are further expected to benefit from the new townships which will make available much needed residential erven. 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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