



**URBAN  
DYNAMICS**  
town and regional planners

NOVEMBER 2021  
REPORT NUMBER: APP- 002921

## APPLICATION FOR ENVIRONMENTAL CLEARANCE:

**FOR THE CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES  
IN WATER COURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENT  
ON PORTION NO. 12, OF THE REMAINDER OF ONIIPA TOWN AND TOWNLANDS  
NO. 1164 IN THE OSHIKOTO REGION**

### AN ENVIRONMENTAL SCOPING ASSESSMENT



**PROPONENT:**

**ONIIPA TOWN COUNCIL**  
P.O. Box 25179  
ONADJOKWE  
**NAMIBIA**

**CONSULTANT:**

**URBAN DYNAMICS AFRICA**  
P O Box 20837  
WINDHOEK  
**NAMIBIA**

**SUBMISSION:**

MINISTRY OF ENVIRONMENT FORESTRY AND TOURISM  
PRIVATE BAG 13306  
**WINDHOEK**  
NAMIBIA

REFERENCE: 1213  
ENQUIRIES: HEIDRI BINDEMANN-NEL  
WILHELM SHEPYA  
JOHANN OPPERMAN

TEL: +264-61-240300  
FAX: +264-61-240309

**DEVELOPMENT ROLE PLAYERS:**

**ONIIPA TOWN COUNCIL**

P O Box 25179

**ONADJOKWE**

NAMIBIA



**DEVELOPMENT WORKSHOP NAMIBIA**

P O Box 40723

AUSSPANPLATZ

**WINDHOEK**

NAMIBIA



PLANNING AND SCOPING REPORT FOR THE ESTABLISHMENT OF A TOWNSHIP AT ONIIPA, PREPARED BY

**URBAN DYNAMICS AFRICA**

P O Box 20837

**WINDHOEK**

**NAMIBIA**



I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any, information given above is false, misleading, wrong or incomplete.

A handwritten signature in black ink, appearing to read 'Junias Jakob'.

Signature of Applicant

**JUNIAS JAKOB**

Full Name in Block Letters

**Oniipa Town Council CEO**

Position

on behalf of the **Oniipa Town Council**

Date: 28/09/2021

**GENERAL LOCATION DESCRIPTION OF THE DEVELOPMENT AREA:**

DESCRIPTOR:	LOCATION SPECIFICS:
NATURE OF ACTIVITIES:	The construction of public roads and the creation of infrastructures through Township Establishment.
REGION:	Oshikoto Region
LOCAL AUTHORITY:	Oniipa Town Council
FALL WITHIN:	Within the Remainder of Oniipa Town and Townlands No. 1164
NEAREST TOWNS / CITY:	Oniipa
SIZE OF PTN 12	79 709.61 Sqm
LAND USE:	Undetermined
STRUCTURES:	Yes
HISTORICAL RESOURCES:	No
CEMETERY:	No
FLOODLINES:	Yes
ENVIRONMENTAL SIGNIFICANT AREA:	➤ Water areas
LATTITUDE:	-17.915291 S,
LONGITUDE:	16.0333139 E
RELEVANT LISTED ACTIVITIES:	<p>The Environmental Management Act (Act 7 of 2007),</p> <p><b>Section 8.</b> Water Resource Developments;</p> <p>8.8. Construction and other activities in watercourses within flood lines;</p> <p>8.9. Construction and other activities within a catchment area;</p> <p><b>Section 10.</b> Infrastructure:</p> <p>10.1. The construction of-</p> <p>10.1. (b) public roads;</p> <p>10.2. Route determination of roads and design of associate physical infrastructure where-</p> <p>10.2. (a) public roads.</p>

**TABLE OF CONTENTS**

1	APPOINTMENT .....	1
2	BACKGROUND .....	1
3	PURPOSE OF THE REPORT .....	2
4	NATURE OF THE ACTIVITY .....	2
5	LEGISLATION .....	3
6	METHODOLOGY .....	5
6.1	SITE INFORMATION AND TOPOGRAPHY .....	5
6.2	NATURAL RECEIVING ENVIRONMENT .....	5
6.3	PUBLIC CONSULTATION.....	5
7	DESCRIPTION OF THE SITE .....	6
7.1	LOCATION OF THE SITES.....	6
7.2	OWNERSHIP, SIZE, AND SHAPE OF THE PORTION .....	7
7.3	LAND USE ACTIVITIES .....	7
7.4	ACCESS AND UTILITY SERVICES .....	8
7.4.1	Road Access: .....	8
7.4.2	Water Connection:.....	8
7.4.3	Electrical Supply: .....	8
7.4.4	Sewerage: .....	9
7.4.5	Communication: .....	9
7.5	CULTURAL RESOURCES.....	9
7.6	ENVIRONMENTAL CHARACTERISTICS AND TOPOGRAPHY.....	9
7.6.1	Natural Environment:.....	9
7.6.2	Habitats on Site: .....	10
7.6.3	Soil Conditions: .....	10
7.6.4	Topography and Flooding: .....	11
7.6.5	Climate, Wind Directions, and Rainfall: .....	11

7.7	STATUS OF PROTECTED AREA .....	12
7.8	SUMMARY OF THE HABITATION ON SITE .....	12
8	THE PROJECT TOWNSHIP .....	14
8.1	FIRST LAYOUT DETAIL.....	14
8.2	THE STREET LAYOUT .....	15
8.2.1	Provision for Drainage: .....	15
9	POTENTIAL IMPACTS.....	16
9.1	SUMMARY OF POTENTIAL IMPACTS.....	16
9.1.1	Benefits of the Project: .....	16
9.1.2	Potential Negative Impacts during Construction: .....	16
9.1.3	Potential Negative Impacts during Operations: .....	16
9.2	POTENTIAL IMPACTS .....	17
9.2.1	Project Benefits: .....	17
9.2.2	Negative impacts during Construction: .....	17
9.2.3	Potential negative impacts during Operations: .....	18
9.3	DEALING WITH RESIDUAL IMPACTS .....	19
9.3.1	Residual Social Impacts: .....	19
9.3.2	Residual Environmental Impacts:.....	19
10	SUMMARY AND APPLICATION .....	21
10.1	PROJECT IMPACTS, AVOIDANCE MEASURES AND RESIDUAL IMPACTS .....	21
11	APPLICATION FOR ENVIRONMENTAL CLEARANCE.....	24

**FIGURES**

Figure 1: The Locality of Oniipa ..... 1

Figure 2: Public Meeting..... 5

Figure 3: Locality of the Project Area ..... 6

Figure 4: Shape of the Portion..... 7

Figure 5: Land use Activities..... 7

Figure 6: Electrical Supply ..... 8

Figure 7: Vegetation within the Cuvelai Delta ..... 9

Figure 8: The Site’s Vegetation ..... 10

Figure 9: Rock Types in Namibia..... 10

Figure 10: Site Contour Map ..... 11

Figure 11: Namibia Climate ..... 11

Figure 12: Planning Constraints ..... 13

Figure 13: The Proposed Layout ..... 14

Figure 14: Street Layout..... 15

Figure 15: Provision for Pedestrians ..... 17

Figure 16: Accommodating Flood areas..... 18

Figure 17: Impacted Homesteads and Fields ..... 19

Figure 18: Accommodating Trees and Water areas ..... 20

**TABLES**

Table 1: Portion Size..... 7

## **ANNEXURES**

- ANNEXURE 1:** FORM 1 APPLICATION FOR AN ENVIRONMENTAL CLEARANCE CERTIFICATE (SECTION 32)
- ANNEXURE 2:** CV (OF THE EAP)
- ANNEXURE 3:** CONTACT DETAIL OF THE PROPONENT
- ANNEXURE 4:** CONTACT DETAIL OF THE CONSULTANT
- ANNEXURE 5:** ENVIRONMENTAL MANAGEMENT PLAN

## **APPENDIX**

- APPENDIX A:** APPROVAL FROM THE TOWN COUNCIL
- APPENDIX B:** LAYOUT
- APPENDIX C:** PUBLIC CONSULTATION PROCESS
- APPENDIX C.1:** NOTES AND ADVERTISEMENTS
- APPENDIX C.2:** BID DOCUMENT
- APPENDIX C.3:** COPY OF THE STAKEHOLDERS LIST
- APPENDIX C.4:** COMMUNITY MEETING MINUTES
- APPENDIX D:** MINUTES OF THE MEETING WITH THE ENVIRONMENTAL COMMISSIONER

ABBREVIATION:	DESCRIPTION:
am	ANTE MERIDIEM / BEFORE MIDDAY
Av	AVENUE
BID	BACKGROUND INFORMATION DOCUMENT
DEM	DIGITAL ELAVATION MODEL
ER	EMPLOYERS REPRESENTATIVE
EA	ENVIRONMENTAL ASSESSMENT
EC	ENVIRONMENTAL COMMISSIONER
ECO	ENVIRONMENTAL CONTROL OFFICER
EMP	ENVIRONMENTAL MANAGEMENT PLAN
Etc.	ET CETERA / OTHER SIMILAR THINGS
e.g.	EXEMPLI GRATIA
FRMP	FLOOD RISK MANAGEMENT PLAN
HIV	HUMAN IMMUNODEFICIENCY VIRUS
i.e.	ID EST. / IN OTHER WORDS
I&APs	INTERESTED AND AFFECTED PARTIES
NBD	THE NAMIBIA BIODIVERSITY DATABASE
NHC	NAMIBIAN HEALTH CARE
NORED	NORTHERN REGIONAL ELECTRICITY DISTRIBUTOR
pm	POST MERIDIEM / AFTER MIDDAY
SME	SMALL-AND-MEDIUM-SIZED ENTERPRISE
TRRP	TREE REMOVAL AND REPLACEMENT PLAN
TB	TUBERCULOSIS
URPB	URBAN AND REGIONAL PLANNING BOARD
WMP	WASTE MANAGEMENT PLAN

UNIT SYMBOL:	UNIT DESCRIPTION:
0°	DEGREES CELSIUS
E	EAST
ha	HECTARES
Km	KILOMETRE
m	METER
mm	MILLIMETRE
S	SOUTH
m <sup>2</sup>	SQUARE METERS
%	PERCENTAGE



## 1 APPOINTMENT

Oniipa Town Council, in partnership with the Development Workshop of Namibia (DWN), appointed Urban Dynamics to obtain Environmental Clearance for the

### CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES IN WATERCOURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENTS AT ONIIPA.

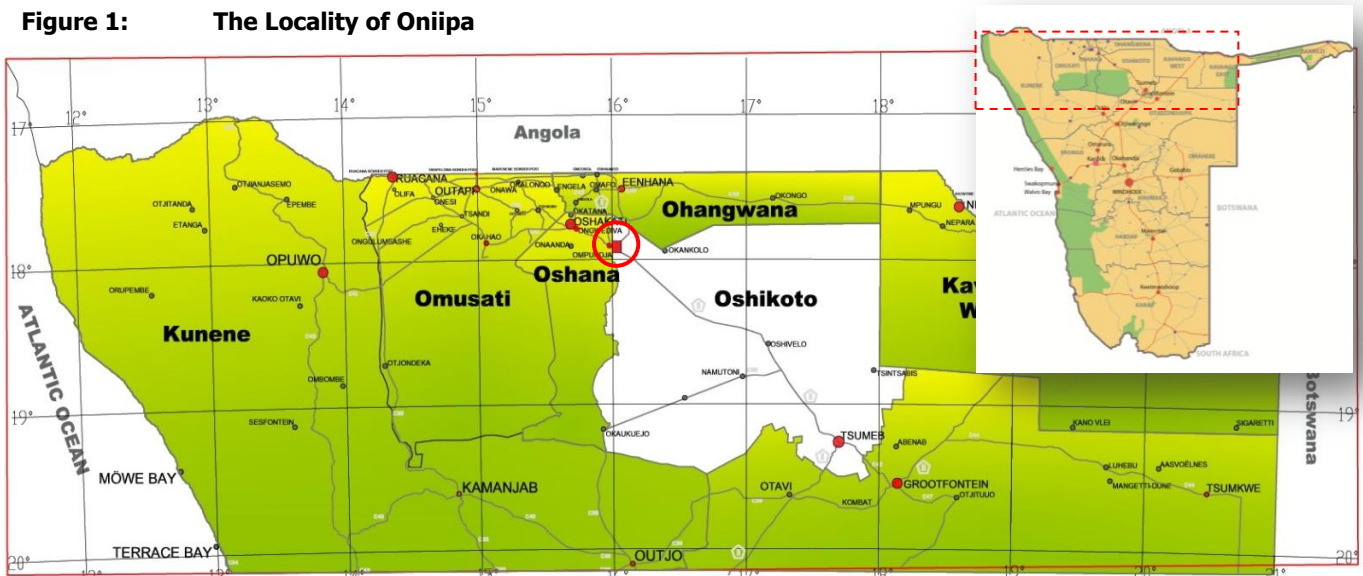
The relevant documentation are included in support of our application to the Environmental Commissioner; please refer to the appendices attached hereto.

## 2 BACKGROUND

Development Workshop of Namibia (DWN) currently assists the Oniipa Town Council with providing low-cost housing via a high-density residential township that caters for the ultra low-income residents of Oniipa.

As a result, DWN appointed Urban Dynamics Africa to plan and obtain Environmental Clearance to establish a new township on proposed Portion No. 12 of the Oniipa Town and Townlands No. 1164 within the Oshikoto Region.

**Figure 1: The Locality of Oniipa**



For the purpose of obtaining approval from the Ministry of Urban and Rural Development through the Urban and Regional Planning Board, an Environmental Clearance Certificate must first be obtained from the Ministry of Environment, Forestry and Tourism.

### 3 PURPOSE OF THE REPORT

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In terms of the Environmental Management Act (Act 7 of 2007) Regulations, township establishment is not a listed activity. Although Section 27 of the Act lists land use and transformation of an area within which activities may be listed, the honourable Minister chose not to list township establishment as one such activity.

However, Urban Dynamics acknowledges that township establishment may, in some cases, have unacceptable environmental impacts, but that impacts are generally limited since it is mostly done to extend existing urban areas by way of laying out new erven on Townlands already earmarked for urban development. To ensure that there are no unacceptable or unmitigated environmental and social impacts, Urban Dynamics as a matter, of course, provides the Environmental Commissioner (EC) with a baseline report which will enable him to screen the project and determine if a clearance certificate can be issued or if a full assessment is required. Find attached a copy of the meeting minutes with the Environmental Commissioner wherein this modus operandi was agreed upon (**Appendix "E"**).

### 4 NATURE OF THE ACTIVITY

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The purpose of the application is to obtain approval from the Ministry of Environment Forestry and Tourism in terms of

**Section 8.** *Water Resource Developments-*

- 8.8. *Construction and other activities in watercourses within flood lines;*
- 8.9. *Construction and other activities within a catchment area;*

**Section 10.** *Infrastructure-*

- 10.1. *The construction of-*
  - 10.1. (b), *Public roads;*
- 10.2. *Route determination of roads and design of associate physical infrastructure where-*
  - 10.2. (a), *Public road.*

This report documents the baseline information necessary to enable the Environmental Commissioner (EC) to screen this project and issue an Environmental Clearance Certificate in **Section 33 of the Environmental Management Act (Act 7 of 2007)**.

This report deals with the nature of the project, identifies the potential impacts that may be expected and the mitigation measures which will be implemented to deal with the impacts.

## 5 LEGISLATION

The following table provides the legislative framework against which the application should be assessed:

STATUTE	PROVISIONS	PROJECT IMPLICATIONS
<p><b>THE CONSTITUTION OF THE REPUBLIC OF NAMIBIA, 1990:</b></p>	<p>The state shall actively promote and maintain the welfare of the people by adopting, inter-alia, policies aimed at the following:</p> <p>(i) <i>management of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all.</i></p>	<p>Ensure that the ecological integrity of the ecosystems of the area is protected.</p>
<p><b>ENVIRONMENTAL MANAGEMENT:</b></p>	<p><b><i>Environmental Management Act No.7 of 2007:</i></b></p> <p><b><i>EIA Regulation (EIAR) GN 57/2007 (GG 3212):</i></b></p> <p>In terms of Section 10.1(a), 10.1(b), 10.2(a), and 10.2(c) for environmental clearance for the construction of oil, water, gas and petrochemical and other bulk supply pipelines, the construction of public roads and the construction of a road with more than one lane of traffic in both directions.</p> <p>In terms of Section 8.8, 8.10 and 8.11, for construction and other activities in watercourses within flood lines, the reclamation of land from below or above the high-water and the alteration of natural wetlands are listed activities.</p> <p>Prescribes the procedures to be followed for authorisation of the project (i.e. Environmental clearance certificate).</p>	<p>Evaluate if the alignment of the street will impact the social and natural environment.</p> <p>Determine if the risk of flooding of the erven is at acceptable levels.</p> <p>Determine if the proposed limited infill would impact the function of the watercourse or cause flooding elsewhere.</p> <p>Determine how wastewater pipelines in the riverbed should be designed, constructed and maintained to prevent groundwater and other pollution.</p>

<p><b>WATER AND RESOURCES MANAGEMENT:</b></p>	<p><b><i>The Water Act No. 54 of 1956 and Water Resources and Management Act No.27 of 2007 Section 92:</i></b></p> <p>Section 92 (1), A person may not engage in any construction work or activity that causes or is likely to cause, the natural flow conditions of water in to or from a watercourse to be modified, unless the Minister has granted prior written approval for the work or activity to be carried out.</p> <p>Section 100 (e) consult with the regional Council or local authority in determining the geographic extent of flood plain areas in its region or local authority, as the case may be, and assist any such councils in regulating the development and use of land within floodplain areas</p> <p>Section 100 (f) prescribe measures for control and management of storm and flood risk within local authority areas.</p> <p>Section 101 (b) development on the banks of any wetland or dam; and</p> <p>Section 101 (c) the removal of rocks, sand or gravel or any other material from a watercourse.</p>	<p>Assess the potential risk that the planned activities may have on both the watercourse on the one hand and future occupants of the land on the other.</p>
<p><b>THE PUBLIC HEALTH AND HEALTH AND SAFETY REGULATIONS:</b></p>	<p><b><i>The Public Health Act 36 of 1919 as amended and the Health and Safety Regulations:</i></b></p> <p>These acts control the existence of nuisances such as litter that can cause a threat to the environment and public health.</p>	<p>Prevent activities that can have an impact on the health and safety of the public.</p>
<p><b>COMPENSATION OF STRUCTURES OR FIELDS</b></p>	<p><b><i>Cabinet Compensation Policy Guidelines for Communal land:</i></b></p> <p>Providing compensation to individuals regarding relocating people, removing fruit trees, or developing Mahango fields within communal land.</p>	<p>Assess to what extent the proposed policy complies with the plan's provision to ensure the rights of individuals within communal land.</p>

## 6 METHODOLOGY

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The following section discusses the methodology used by Urban Dynamics Africa (UDA) in assessing the site in terms of its strengths, weaknesses, opportunities, and threats and to then formulate a planning approach to prepare a layout that harnesses the strengths, accommodate the weaknesses, utilise the opportunities and avoid the threats identified. These also include the natural and social environment within which the project is set.

### 6.1 SITE INFORMATION AND TOPOGRAPHY

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Urban Dynamics undertook site visits during 2021 to identify the existing structures, infrastructure, topography, land uses, and how the settlement is currently functioning.

In terms of obtaining an accurate topographical base map and aerial survey images, a registered land surveyor was appointed by the Development Workshop of Namibia to survey the site in 2020. In addition to the contour survey, 5 m contours data was obtained for the Surveyors Generals office.

### 6.2 NATURAL RECEIVING ENVIRONMENT

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The Urban Dynamics team conducted an environmental screening for the affected area in March 2021. The team used orthophoto analysis, a site visit, literature surveys and extensive experience in the region.

Data sources used include:

- Atlas of Namibia (Mendelsohn et. al, 2002) and
- NamPower Annual Report 2020 (NamPower, 2020)

### 6.3 PUBLIC CONSULTATION

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Urban Dynamics launched a public consultation campaign to ensure that any person interested in the project will have an opportunity to register as a stakeholder. Urban Dynamics, the Oniipa Town Council, and the Development Workshop of Namibia (DWN) held a meeting on the 31<sup>st</sup> of August 2021 at the old church building site.

**Figure 2: Public Meeting**



## 7 DESCRIPTION OF THE SITE

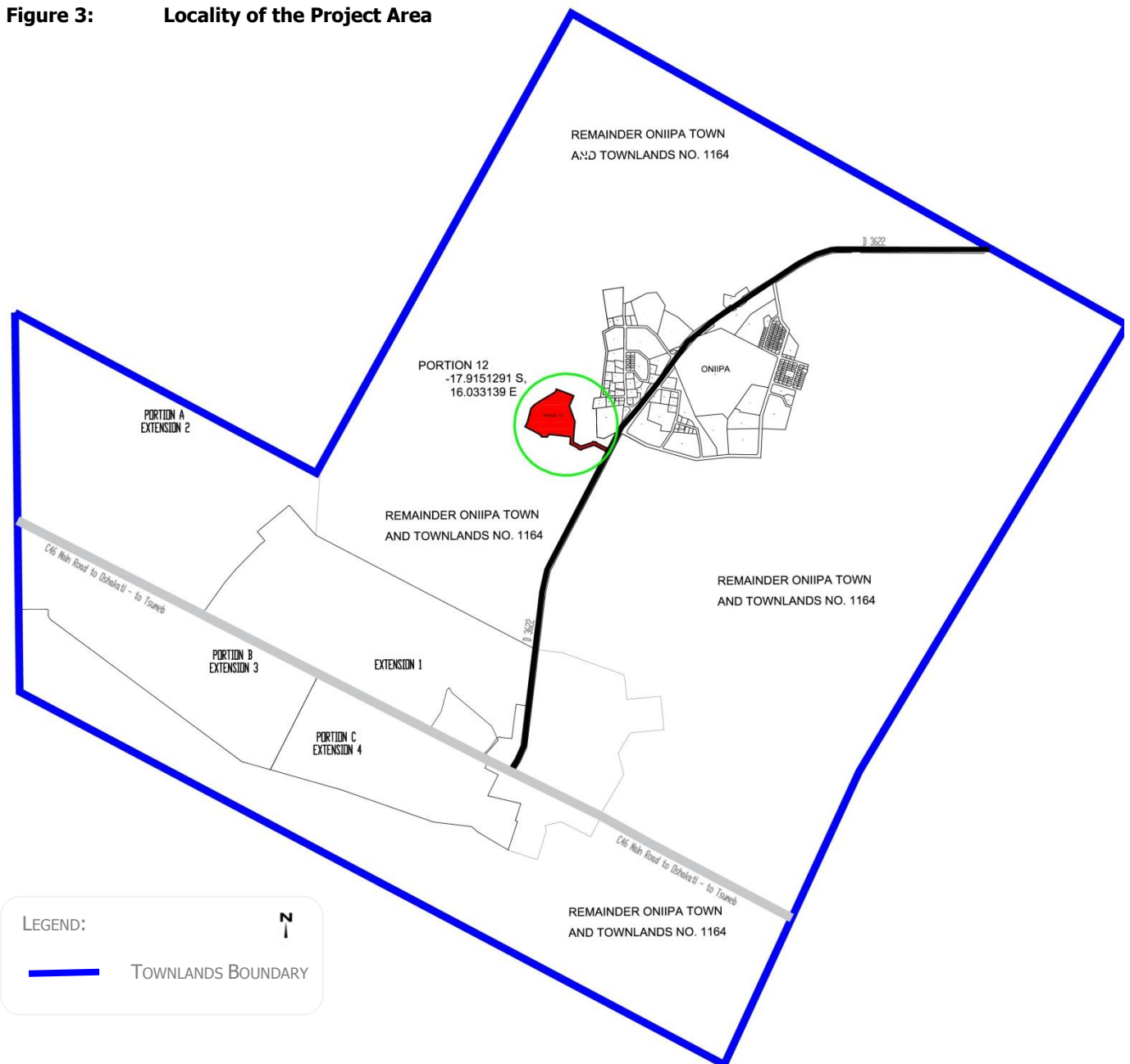
This section provides a planning description of the proposed project site relative to the surrounding urban areas, existing use and settlement, services and other infrastructure, topography, and other site features.

### 7.1 LOCATION OF THE SITES

The proposed development is located on Portion 12 of the Remainder of Oniipa Town and Townlands No. 1164. The project falls within the Oshikoto Region under Registration Division A.

The portion is north of the D 3622 Road, at  $-17.9151291, 16.033139$  E. A locality plan is attached as **Appendix "B"**.

**Figure 3: Locality of the Project Area**



## 7.2 OWNERSHIP, SIZE, AND SHAPE OF THE PORTION

The Oniipa Town Council is the registered owner of the site. According to the Town Council, the proposed development portion zoning is “Undetermined”.

The project site measures approximately 79.7 ha in extent. **Figure 4** illustrates the shape of the portion. **Table 1** provides the portion’s size and zoning.

Table 1: Portion Size

PORTION	AREA (HA)	ZONING
Portion 12	79.7	Undetermined

**Figure 4: Shape of the Portion**



## 7.3 LAND USE ACTIVITIES

The site includes two (2) homesteads and three (3) muhango fields. Road tracks running through the site open areas are used for animal grazing.

**Figure 5: Land use Activities**



## 7.4 ACCESS AND UTILITY SERVICES

### 7.4.1 Road Access:

The site currently accesses District Road 3622 from Onethindi to Eenhana. Find attached access approval as **Appendix "E"**.

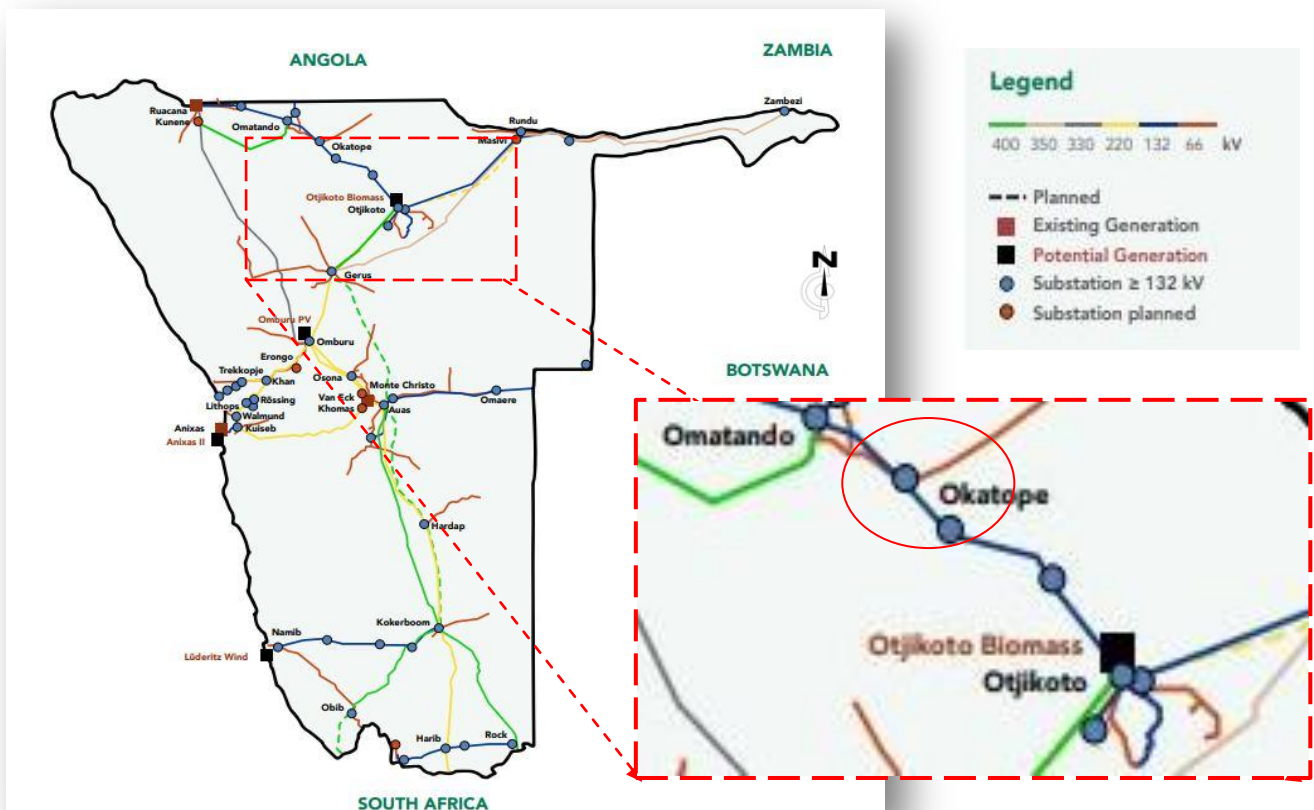
### 7.4.2 Water Connection:

NamWater and the Rural Water Supply Division of the Ministry of Agriculture, Water and Lands supply bulk water to the Oniipa. The town's water reticulated network, supply water to formal residents and businesses. Informal areas get water through communal taps.

### 7.4.3 Electrical Supply:

The development site is to be supplied from Oniipa's reticulated network through the nearby NamPower network.

**Figure 6: Electrical Supply**



*NamPower Annual Report 2020*



**7.4.4 Sewerage:**

A sewerage reticulation network and pump station serve the formal Oniipa. The informal settlement areas make use of septic tanks and pit latrines.

**7.4.5 Communication:**

The town has accessibility to selected services, including television, radio, newspaper, telephone, and cell phone.

**7.5 CULTURAL RESOURCES**

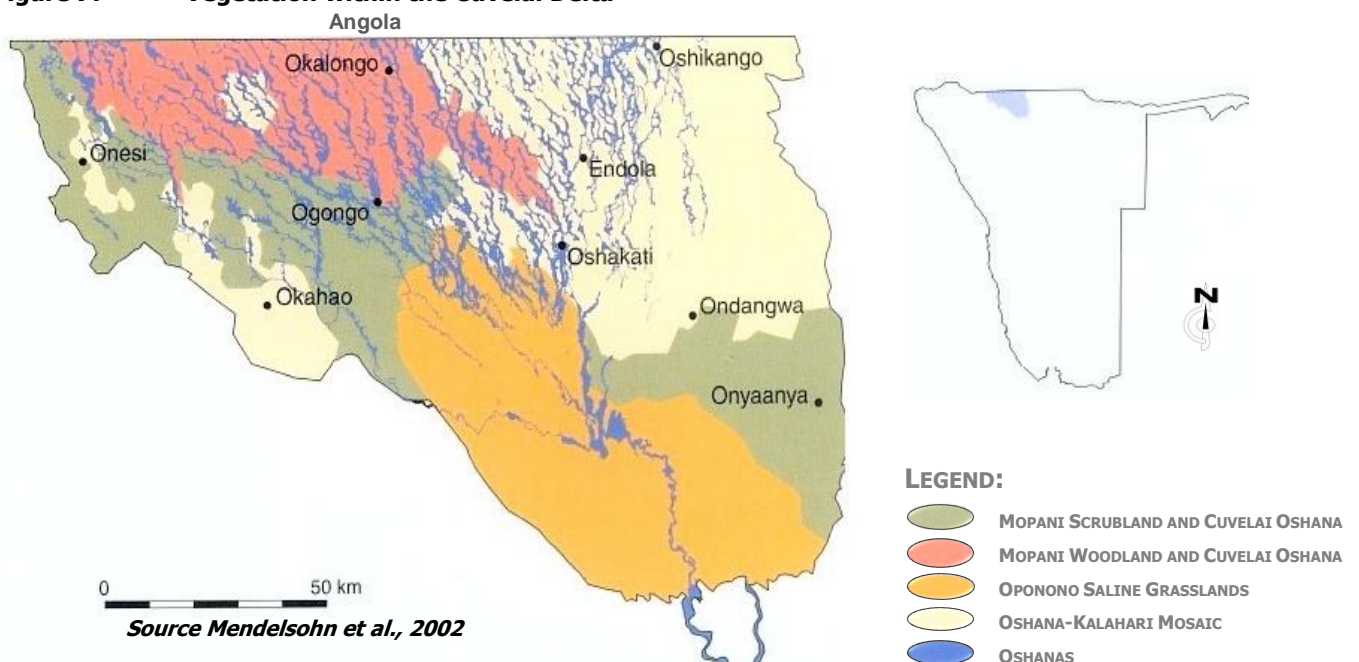
No graves were identified on the site, and no other items of historical value were found or could be identified within the development site boundaries.

**7.6 ENVIRONMENTAL CHARACTERISTICS AND TOPOGRAPHY**

**7.6.1 Natural Environment:**

Oniipa is situated within the Oshikoto Region, which is within the Cuvelai Delta. The Cuvelai Delta forms a network of drainage channels known as oshanas. Oshanas periodically carry water after local rain or good fall in higher areas 300 km from the north. Therefore, forming the Cuvelai Drainage System, which spread across southern Angola, exists in the Etosha Pan (Mendelsohn et al., 2002). The site has low lying areas which are known for rainwater accumulation during raining season

**Figure 7: Vegetation within the Cuvelai Delta**



Vegetation surrounding Oniipa consists of the Oshana-Kalahari Mosaic. However, the green vegetation biomass is very low due to overgrazing, clearance of land for muhango fields, and wood harvesting. The image below shows the vegetation on the site.

**Figure 8: The Site's Vegetation**



**7.6.2 Habitats on Site:**

Due to the habitat alteration, the area is ecologically degraded and no longer pristine and is not fully functional at the ecosystem level. It may be best described as an impacted ecosystem and is not a natural environment.

**7.6.3 Soil Conditions:**

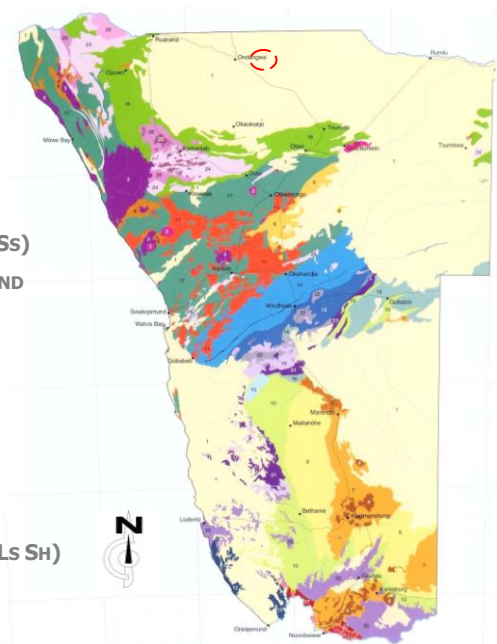
Surface soils across the region are dominated by sand, with some areas covered by the Otavi Group. **Figure 9** indicates that Opiindi is situated within the Kalahari and Namib Sand area of Namibia (Mendelsohn et al., 2002). The image below shows the sandy soil surface at the site.

**Figure 9: Rock Types in Namibia**

**LEGEND:**

- 1 KALAHARI AND NAMIB SAND (S)
- 2 IGNEOUS INTRUSIONS (Ls Ss)
- 3 ETENDEKA GROUP (Ss)
- 4 DYKES AND SILLS (V)
- 5 KALKDRAND BASALTS (B)
- 6 HUAB BASIN (Ss SH)
- 7 MAIN KAROO BASIN (Ss SH)
- 8 WATERBERG BASIN (Ss C)
- 10 FISH RIVER SUBGROUP (Ss)
- 11 KUIBIS AND SCHWARZRAND SUBGROUP (Ss C)
- 12 DAMARA GRANITE (G)
- 13 GARIEP COMPLEX (Cx)
- 14 HAKOS GROUP (Ss)
- 15 KHOMAS GROUP (SCH)
- 16 NAUKLUFT MOUNTAINS (Ls SH)
- 17 SWAKOP GROUP (SCH)
- 18 OTAVI GROUP (Ls)
- ~ MATCHLESS BELT (A)

Source Mendelsohn et al., 2002



### 7.6.4 Topography and Flooding:

The site’s topography is characterised by a flat downward slope of a 1 m rise per 440 m and slopes from east to north-west and south-west, with the highest point being 1095 m above sea level and the lowest is 1094 m.

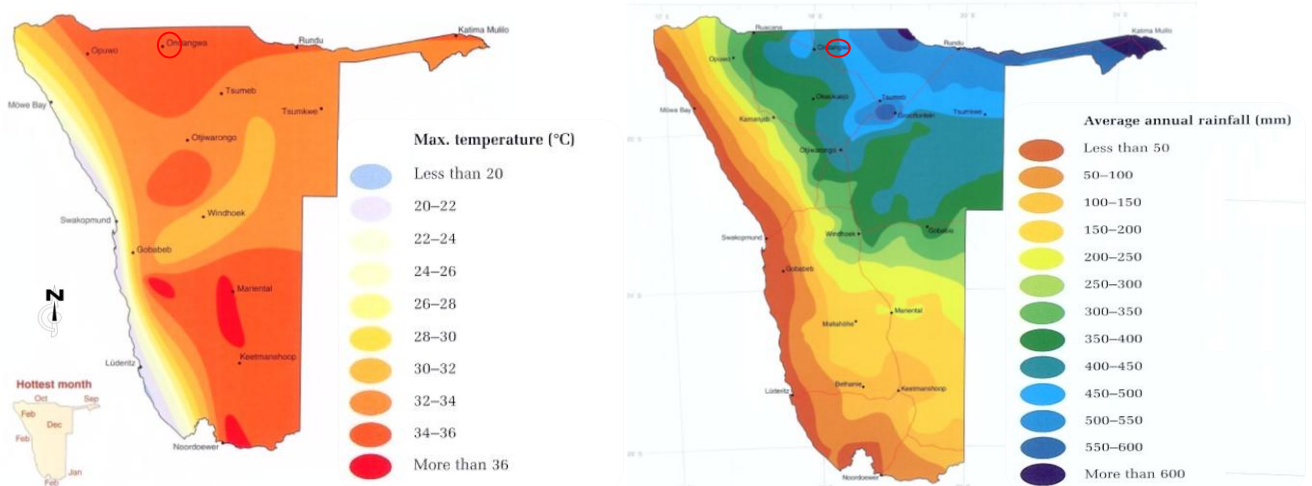
**Figure 10: Site Contour Map**



### 7.6.5 Climate, Wind Directions, and Rainfall:

Namibia is a hot and dry country, and due to low levels of humidity in the air, the country experiences low levels of cloud cover and rain and extremely high rates of evaporation. The average monthly temperature at Oniipa ranges from 17°C in July to 26°C in December. The fewest hours of sunshine experienced per day is about 7 hours in January when there is a lot of cloud cover, and the area also receives the most rain. From May to September, Oshakati has about 10 hours of sunlight each day.

**Figure 11: Namibia Climate**



Source Mendelsohn et al., 2002

Most rain-bearing clouds are fed into the country by north-easterly winds and blocked by dry air from the south and the west (Mendelsohn et al., 2002). As such, the South and Western parts of the country receive less rainfall than the central and northern parts of the country. The average monthly humidity at midday ranges from 50% in March to 17% in September. Approximately 99% of the annual rainfalls are from October to April, with January receiving the most precipitation. The average yearly rainfall across the north-central regions increases from west to east, less than 300mm and not more than 550mm. (Mendelsohn, 2002)

Winds in Oniipa are infrequent, as the area experiences wind calm about 57% of the time. Winds mostly blow from the east and seldom reach speeds exceeding 10 km per hour. The windiest months are from January to April.

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## **7.7 STATUS OF PROTECTED AREA**

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The site itself has no protected status. However, the oshanas/watercourses are the only environmental sensitive areas within the development site.

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## **7.8 SUMMARY OF THE HABITATION ON SITE**

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Due to land clearance for farming, overgrazing, and wood harvesting, extensive habitat alteration occurred. The site is ecologically impacted and no longer pristine, and is not fully functional at the ecosystem level. It may be best described as an impacted ecosystem and is not a natural environment.

Key environmentally relevant features show that:

- ❖ The development site is at –17.9151291, S 16.033139 E, north of the B1 from Oshakati to Tsumeb. East of Onethindi on the D 3622 to Oshigambo;
- ❖ Activities on the site include two (2) homesteads and three (3) muhango fields. The site has road tracks running through it, and the open areas are used for animal grazing;
- ❖ Oniipa is situated within the Oshikoto Region, which is within the Cuvelai Delta. The site has low lying areas which are known for rainwater accumulation during raining season.
- ❖ Vegetation surrounding Oniipa consists of the Oshana-Kalahari Mosaic;
- ❖ No significant low-level vegetation remains in the area but scattered larger trees, and no large wild mammals are resident within the development site;
- ❖ No graves were identified on the site, and no other items of historical value were found or could be identified within the development site boundaries; and

- ❖ **Figure 12** summarises the site's planning constraints, including the two homesteads, muhango fields, large trees, and a low lying area.

**Figure 12: Planning Constraints**



The screening process showed no significant biodiversity-related issues for the current development, and no aspects require further investigation. The layout should consider the low lying area and large trees in the area, and where necessary, apply for permits for these to be moved. It is recommended that the development proceeds without the need for further assessment, as provided for under articles 33 and 34 of the Environmental Management Act.

## 8 THE PROJECT TOWNSHIP

The client intends to establish a new township on Portion 12 of Oniipa Town and Townlands No. 1164. The townships will consist of mixed-use neighbourhoods, meeting the rising demand for housing and business plots within Oniipa and the Oshikoto Region.

### 8.1 FIRST LAYOUT DETAIL

The proposed layout alters the portion's current zoning from undetermined to include Residential-, General Residential-, Business-, Garden/ Agri land use, and Public Open Spaces. The layouts locality, shapes and sizes are illustrated in **Figure 13**.

**Figure 13: The Proposed Layout**

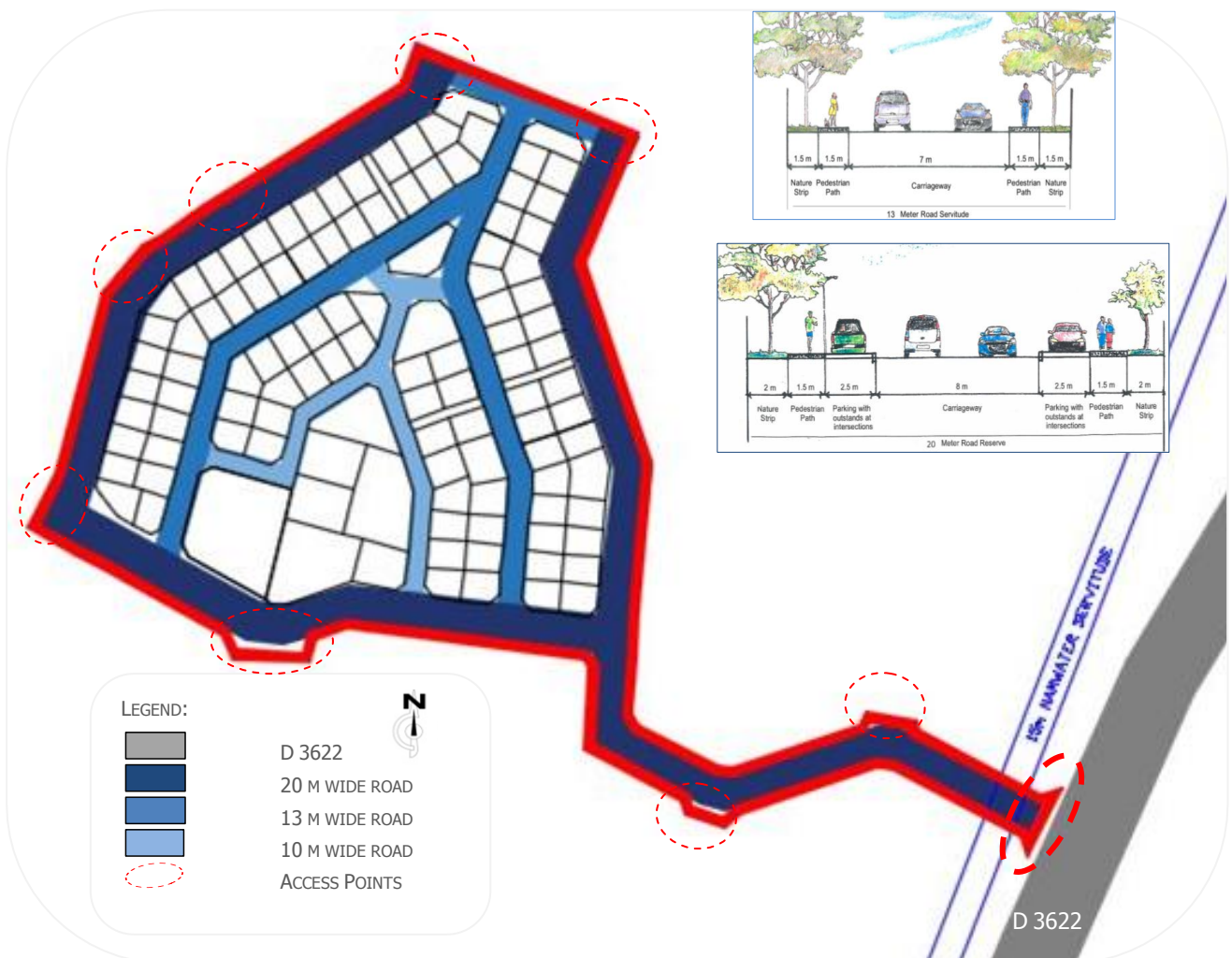


## 8.2 THE STREET LAYOUT

The layout has 9 (nine) entry points, of which one (1) access point links to an already existing 20 m Distributor Road (D3622).

The layout has various types of roads: 10 m collector road (light blue) connects with the 13 m distributor roads (blue), which leads into the 20 m distributor roads (dark blue) to assure adequate flow in the settlement.

**Figure 14: Street Layout**



### 8.2.1 Provision for Drainage:

Stormwater drainage should be designed, and culverts need to be used to accommodate the water flow.

## 9 POTENTIAL IMPACTS

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During the course of preparing the Oniipa layout, the team continuously assessed the potential positive and negative impacts of the project. Attempts have been made to enhance and strengthen positive impacts and mitigate and weaken the effects of negative impacts in all cases. The planners made several alterations to the plan until they were satisfied that the layout had been refined to the point where it limits risks, mitigates negative impacts and enhances positive impacts to as great an extent as possible. The following section explores each of these impacts in detail, describing and exploring the various ideas integrated into the layout and assessing alternatives where they seem viable.

The section also explores positive impacts that are not fully addressed by the layout. Many influences may be transitory in nature (for example, occurring only during the project's construction phase) or unavoidable given the site constraints and the need for maximising long-term benefits overall. These impacts and strategies for dealing with them are discussed here, but given that this document is an application for environmental clearance, the measures dealing with their mitigation/enhancement are dealt with in detail in the EMP.

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### 9.1 SUMMARY OF POTENTIAL IMPACTS

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The planning of the layout, together with the upgrading of bulk infrastructure and alignment of roads, has the potential to cause environmental and social impacts. The following is a list of potential impacts identified through the scoping process:

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#### 9.1.1 Benefits of the Project:

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- Provision for serviced erven;
- Stimulation of economic development and providing new employment opportunities during construction; and
- Stimulation of the health and wellness of the Oniipa and the Oshikoto Region.

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#### 9.1.2 Potential Negative Impacts during Construction:

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- Impact of removal of vegetation from the site;
- Impact of dust;
- Impact of noise;
- Impact on traffic flow;
- Impact on the health and safety of workers; and
- Impact of waste.

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#### 9.1.3 Potential Negative Impacts during Operations:

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- Potential flooding; and
- Impact of waste during operation.

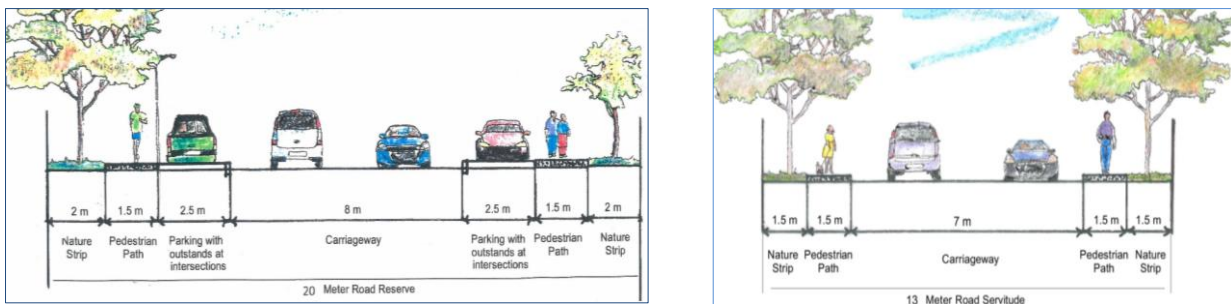


## 9.2 POTENTIAL IMPACTS

### 9.2.1 Project Benefits:

- **Provide for serviced erven.** The communities will now have access to adequately planned erven with specified erf boundaries. This will lead to residents having formal and permanent occupation of land and security of tenure. The layouts process creates a formal development framework to prevent uncontrolled settlement growth and address the current uncontrolled developments.
- **Stimulate employment creation and local economic development.** The development will lead to employment creation during the construction and operation phases. It will render services within the formal economy of Oniipa, employ staff, contribute to rates and taxes and spend money within the same economy.
- **Stimulate health and wellness within the Oniipa Townlands.** The layout makes provision for much-needed service connections that are safe and in line with the layout. It will also create properly aligned roads which will ease traffic circulation within the township. Clearly defined routes will allow for the provision of pedestrian infrastructure, creating a safe walking environment. The layout also makes provision for a vegetable garden by including an Erf for Agri use to be used by the community.

**Figure 15: Provision for Pedestrians**



### 9.2.2 Negative impacts during Construction:

- **Impact of the removal of trees from the site.** Construction activities will impact one large tree and some medium-size trees on the site. The planner prepared the layout in such a way as to minimise the removal of large trees. However, some trees will be removed as a result of the construction of the roads.
- **Impact on traffic flow during construction.** Construction vehicles would need to haul the excavated soil to a disposal site and provide building material and other supplies (i.e. fuel etc.) to the construction site, most of which could be delivered by

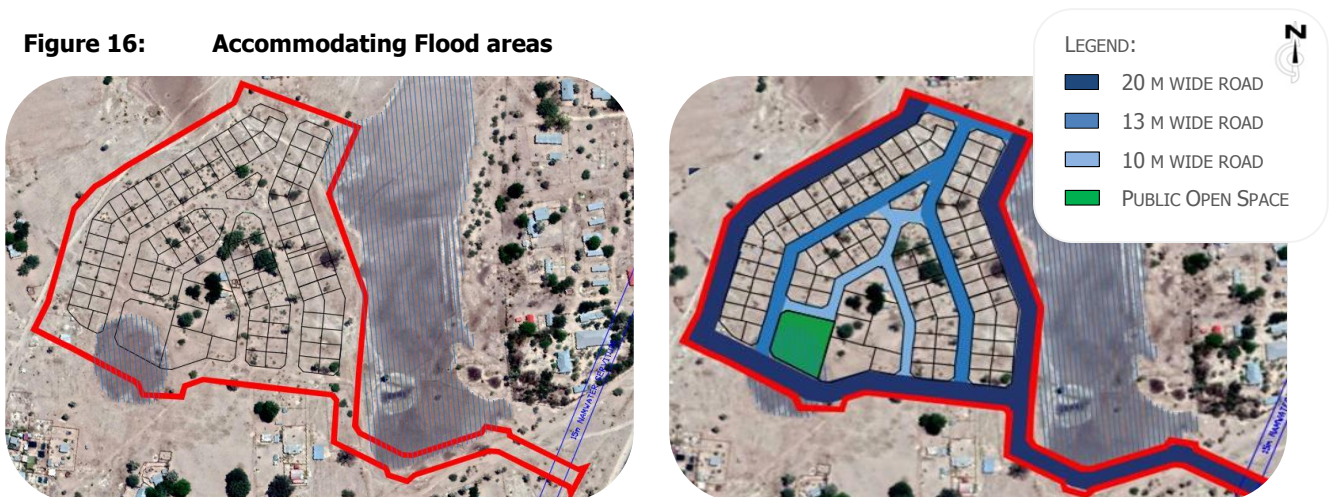
truck. Construction vehicles are most likely to pass near erven and disrupt traffic flow (although the exact access routes to the site are yet to be defined).

- **Impact of dust.** The movement of construction vehicles on bare soil will cause excessive dust, which will expose the community and workers to dust pollution and affect their health. Preventative measures need to be put in place on the site to prevent excessive dust.
- **Impact of potential construction noise.** Construction machinery creates substantial noise, and this will impact the surrounding community. Constant noise can cause stress and health impacts on nearby residents.
- **Impact of construction waste.** Solid waste is the expected significant source of waste at the construction site. If no waste management plan is in place to address general and hazardous waste disposal, it can lead to water and soil pollution on the site and/or within the water areas.
- **Impact on the health and safety of workers and nearby residents.** Construction activities always have potential risks for workers and nearby residents. Inadequate site management measures can expose workers and residents living near the site to hazardous chemicals, dust, and noise. A lack of notices and signs within the area where deep excavation work is done can put the lives of residents and workers in danger.

### 9.2.3 Potential negative impacts during Operations:

- **Impact of flooding.** The development does include water areas. The planner prepared the layout to accommodate low-lying areas within public open space, and the alignment of roads is done in such a way as to buffer water areas from erven.

**Figure 16: Accommodating Flood areas**



- **Impact of operational waste.** Solid household waste is the expected source of waste in the township. Suppose Oniipa Town Council has no Waste Management Plan (WMP) or Waste Removal Plan (WRP) to address general and hazardous waste disposal at the development site. In that case, it can lead to soil pollution on the site and/or within the water areas.

### 9.3 DEALING WITH RESIDUAL IMPACTS

#### 9.3.1 Residual Social Impacts:

Residual social impacts through this project could be elaborated on as follows:

Two homesteads and three muhango fields will have to be relocated or compensated. The owners of these structures and fields are aware that they are within the townlands and will need to make way for future development. In all the cases where structures and fields will be removed, the owners will be compensated as per the Cabinet Compensation Policy Guidelines for Communal land provisions by the Oniipa Town Council.

**Figure 17: Impacted Homesteads and Fields**



#### 9.3.2 Residual Environmental Impacts:

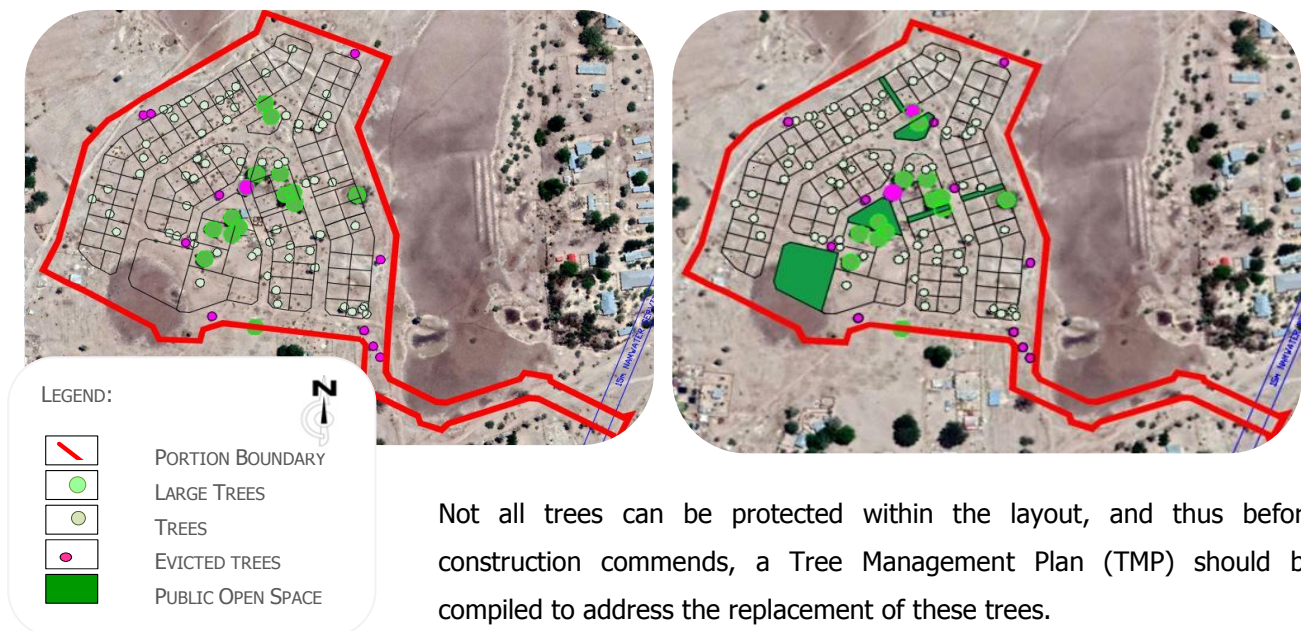
Residual environmental impacts through this project could be elaborated on as follows:

- The development project will create dust and noise during the construction phase. However, this will be limited, and a method to limit it is contained in the Environmental Management Plan (EMP).
- The project development will have an impact on traffic during the construction phase. To minimise the increase in transportation during the construction phase, mitigation

measures to manage the vehicles on the construction site when services are included in the EMP provisions.

- As mentioned before, solid waste is the expected source of waste at the construction site. Mitigation methods are contained in the EMP regarding a WMP for the construction site.
- During the construction phase, there will be a potential impact on the workers' health and safety due to their work environment. This will be limited, and methods to restrict it are contained in the EMP.
- Accommodating the trees within the development site: The planner prepared the layout in such a way as to minimise the impact the construction of roads will have on the removal of trees. Trees are accommodated within individual erven, road reserves and on public open space within the layout.

**Figure 18: Accommodating Trees and Water areas**



Not all trees can be protected within the layout, and thus before construction commences, a Tree Management Plan (TMP) should be compiled to address the replacement of these trees.

- Existing structures and muhango fields will be affected by the planning of the new layout. The structures and muhango field are affected by the proposed roads. In the case where the muhango field exists, the owner will be compensated as per the provisions in the Cabinet Compensation Policy Guidelines for Communal Land.
- Solid household waste is the expected source of waste at the new Oniipa Township. Mitigation methods are contained in the EMP regarding the removal of waste within Oniipa.

**10 SUMMARY AND APPLICATION**

**10.1 PROJECT IMPACTS, AVOIDANCE MEASURES AND RESIDUAL IMPACTS**

POTENTIAL IMPACT:	MEASURES:			RESIDUAL IMPACTS:
	AVOIDANCE:	MITIGATION:	ENHANCEMENT:	
<b><i>Stimulate local economic development and create employment opportunities:</i></b>			<p>During the development phase, the construction company will render service within the formal economy, employ staff, pay rates and taxes and spend money within the same economy.</p> <p>Emphasis must be placed on the requirement and employment of local people.</p>	
<b><i>Providing serviced residential erven:</i></b>			<p>The project will lead to formal and permanent land occupation, tenure security, access to capital and partaking in the economy, and ultimately to wealth creation in the operational phase.</p>	
<b><i>STIMULATE THE HEALTH AND WELLNESS OF THE COMMUNITY:</i></b>			<p><b>THE DEVELOPMENT:</b></p> <p>Provide that all services will be on the higher road reserves.</p> <p>Provide a closed system sewer system, which will prevent pollution during flooding.</p> <p>Provide for pedestrian infrastructure.</p>	

POTENTIAL IMPACT:	MEASURES:			RESIDUAL IMPACTS:
	AVOIDANCE:	MITIGATION:	ENHANCEMENT:	
<b>POTENTIAL REMOVAL OF EXISTING TREES:</b>	Avoid the removal of existing trees.	<p>The EMP mitigation measures for protecting trees on the site include:</p> <ul style="list-style-type: none"> <li>- Trees need to be accommodated within individual erven or the road reserves.</li> <li>- A Tree Management plan needs to be compiled before the development comments.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the planner and contractor.</p>		<i>The planner could not accommodate all the trees on the site. Therefore, measures are included in the EMP to mitigate the impact.</i>
<b>POTENTIAL DUST AND NOISE ON THE CONSTRUCTION SITE:</b>	Avoid dust and noise during the construction phase.	<p>The EMP mitigation measures for</p> <p><b>Dust:</b></p> <ul style="list-style-type: none"> <li>• No removal of vegetation or soil on the site except where necessary during the construction phase.</li> </ul> <p><b>Noise:</b></p> <ul style="list-style-type: none"> <li>• Construction work will be restricted between 07h00 and 18h00.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor and the Oniipa Town Council.</p>		<i>Not all the dust and noise can be prevented.</i>

<p><b>POTENTIAL IN AN INCREASE IN TRAFFIC DURING THE CONSTRUCTION PHASE:</b></p>	<p>Avoid an uncontrolled increase in traffic during the construction phase.</p>	<p>The EMP mitigation measures for traffic at the site include:</p> <ul style="list-style-type: none"> <li>• <b>Traffic</b> during the construction phase will be restricted between 07h00 and 18h00.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor and the Oniipa Town Council.</p>		<p><i>An increase in traffic can be managed. However, the increase in traffic will still have a potential impact on residents.</i></p>
<p><b>HEALTH AND SAFETY OF WORKERS:</b></p>	<p>Avoid health and safety impacts on workers during the construction phase.</p>	<p>The EMP mitigation measures for the health and safety of workers at the site include:</p> <ul style="list-style-type: none"> <li>• Proper construction practices and safety procedures need to be applied.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor.</p>		<p><i>Not all the health and safety aspects of the workers can be prevented.</i></p>
<p><b>FLOODING:</b></p>	<p>Avoid flood risk.</p>	<p>The planner accommodated all the potential water areas within public open space.</p> <p>Management of the public open space needs to include maintenance of the public space during the operational phase.</p> <p>The potential impact timeline is long-term, and the responsibility lies with the Town Council.</p>		<p><i>Not all impacts as a result of flooding can be prevented.</i></p>

<b>COMPENSATING STRUCTURES AND FIELDS</b>		The Oniipa Town Council should compensate residents for their fields, permanent structures, and fruit trees before the construction phase of the project.		
<b>WASTE MANAGEMENT:</b>	Avoid pollution as a result of no waste management.	<p>The EMP mitigation measures for the waste on the construction site and during operations include:</p> <ul style="list-style-type: none"> <li>• During the construction phase, a waste management plan needs to be used on the site.</li> <li>• The townships need to be included within the Oniipa Town Councils waste management system or program during the operational phase.</li> </ul> <p>The potential impact timeline is short-term during construction and long-term during operations.</p> <p>The responsibility lies with the contractor and the Oniipa Town Council.</p>		<i>Not all pollution can be prevented</i>

## 11 APPLICATION FOR ENVIRONMENTAL CLEARANCE

Given these baseline investigation findings, there are no current future environmental impacts and future identified due to creating the street portions or the construction actives within the Oniipa development area.

It is recommended that the development proceeds without the need for further assessment, as provided for under articles 33 and 34 of the Environmental Management Act. The Application Form 1 for an Environmental Clearance Certificate as per Section 32 is attached as **Annexure "1"** to this Scoping Report.