

ENVIRONMENTAL IMPACT ASSESSMENT FOR THE CREATION OF A PUBLIC ROAD (STREET) AT ERF 542, EXTENSION 1, OSHIKUKU, OMUSATI REGION.



ENVIRONMENTAL SCOPING REPORT

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February 2021

DOCUMENT DESCRIPTION

| | |
|---------------------------|--|
| Project Name | Environmental Impact Assessment (EIA) for the Creation of a public road at Erf 542 in Extension 1, Oshikuku, Omusati region. |
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| Report Type | Environmental Scoping report |
| Application number | APP-002354 |
| Assessment Period | January – February 2021 |

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LIST OF ACRONYMS

| | |
|-----------|---|
| EAP: | Environmental Assessment Practitioner |
| EAPAN: | Environmental Assessment Professionals Association of Namibia |
| ECC: | Environmental Clearance Certificate |
| EIA: | Environmental Impact Assessments |
| EMA: | Environmental Management Act |
| EMP: | Environmental Management Plan |
| I&APs: | Interested and Affected Parties |
| GN: | Government Notice |
| LED: | Local Economic Development |
| MAWF: | Ministry of Agriculture, Water and Forestry |
| MET: | Ministry of Environment and Tourism |
| NamWater: | Namibia Water Corporation |
| NORED: | Northern Electricity Distributor |
| OTC: | Oshikuku Town Council |
| NSA: | Namibia Statistic Agency |
| POS: | Public Open Space |

1. INTRODUCTION AND BACKGROUND

1.1 Background

TOYA Urban Planning Consultants cc has been appointed by the proponent, Mr. Sevelinus Nakale to apply for the subdivision of Erf 542 located in Extension 1, Oshikuku., into seven portions and a remainder. As a result of this subdivision, a public road (street) will be created to provide access to the newly created erven.

In terms of the Environmental Management Act of 2007 (Schedule 5.1) and its regulations (GN No. 30 of 2012), the construction of a public road or a road which caters for more than one lane of traffic in both directions cannot take place without an Environmental Clearance Certificate (ECC) being obtained.

Green Gain Environmental Consultants cc has been appointed as an independent Environmental Assessment Practitioner (EAP) to conduct an Environmental Impact Assessment (EIA) and apply for the ECC with the Ministry of Environment, Forestry and Tourism (MEFT).

1.2 Scope of the Study

The environmental scoping study was conducted in line with the Namibia's Environmental Management Act (EMA, No.07 of 2007) and the Environmental Impact Assessment Regulations (GN No. 30 of 2012). The study was conducted in a multidisciplinary approach, it indicates a description of the affected environment and the way the proposed activities may affect the environment. Information pertaining to the receiving environment and its social surroundings has been sourced through baseline site investigations, review of existing relevant information and legislations, use of Geographic Information Systems (GIS) mapping and Google Earth maps and consultation of Interested and Affected Parties (I&APs) and relevant stakeholders.

Information collected were compiled into a Scoping report. Assessment of potential impacts was conducted, and applicable mitigation measures and are contained in this Scoping report. Possible mitigation measures to avoid and mitigate the identified impacts are contained in the Environmental Management Plan (EMP).

1.3 Terms of Reference

The Terms of Reference for the proposed project are based on the requirements set out by the Environmental Management Act (No. 7 of 2007) and its EIA Regulations (GN No. 30 of 2012). The assessment process covered the following steps which are reported in the scoping report as follows:

- Provide a detailed description of the proposed development site.
- Identify all policies, legislation and guidelines that are relevant to the proposed development.
- Evaluate the suitability of the proposed activities against the biophysical and socio-economic of the area.
- Identify the possible environmental and socio-economic impacts of the proposed activities and identify any gaps of information that require specialist studies.
- Notify and consult all I&AP's and relevant stakeholders regarding the proposed development and provide them with reasonable opportunity to participate during the process.
- Propose the appropriate mitigation measures to avoid, mitigate or lessen the negative impacts; and
- Compile EIA reports and apply for the ECC as per EMA Regulations.

This scoping report will be submitted to the Environmental Commissioner, as required by Section 27(3) of the Environment Management Act (No. 7 of 2007).

1.4 Project Team

The following professional teams are involved in the project implementation.

Table 1: Project team

| | |
|--|---|
| Proponent | Mr. Sevelinus Nakale |
| Local Authority | Oshikuku Town Council Mrs. Aili Ileka Property Officer aileka@oshikukutc.org.na |
| Town Planner | TOYA Urban Planning Consultants cc Mr. Simon Shinguto sshinguto@gmail.com |
| Environmental Assessment Practitioner (EAP) | Green Gain Consultants cc Mr. Joseph Kondja Amushila Email: info@greengain.com.na |

2. DESCRIPTION OF THE PROPOSED ACTIVITIES

2.1 Site locality

The development site (Erf 542) measures approximately 4,293m² in extent and is in Extension 1, Oshikuku and can found on the geographical coordinates 17.65889" South, 15.47694" East, along the street to Oshikuku district hospital.

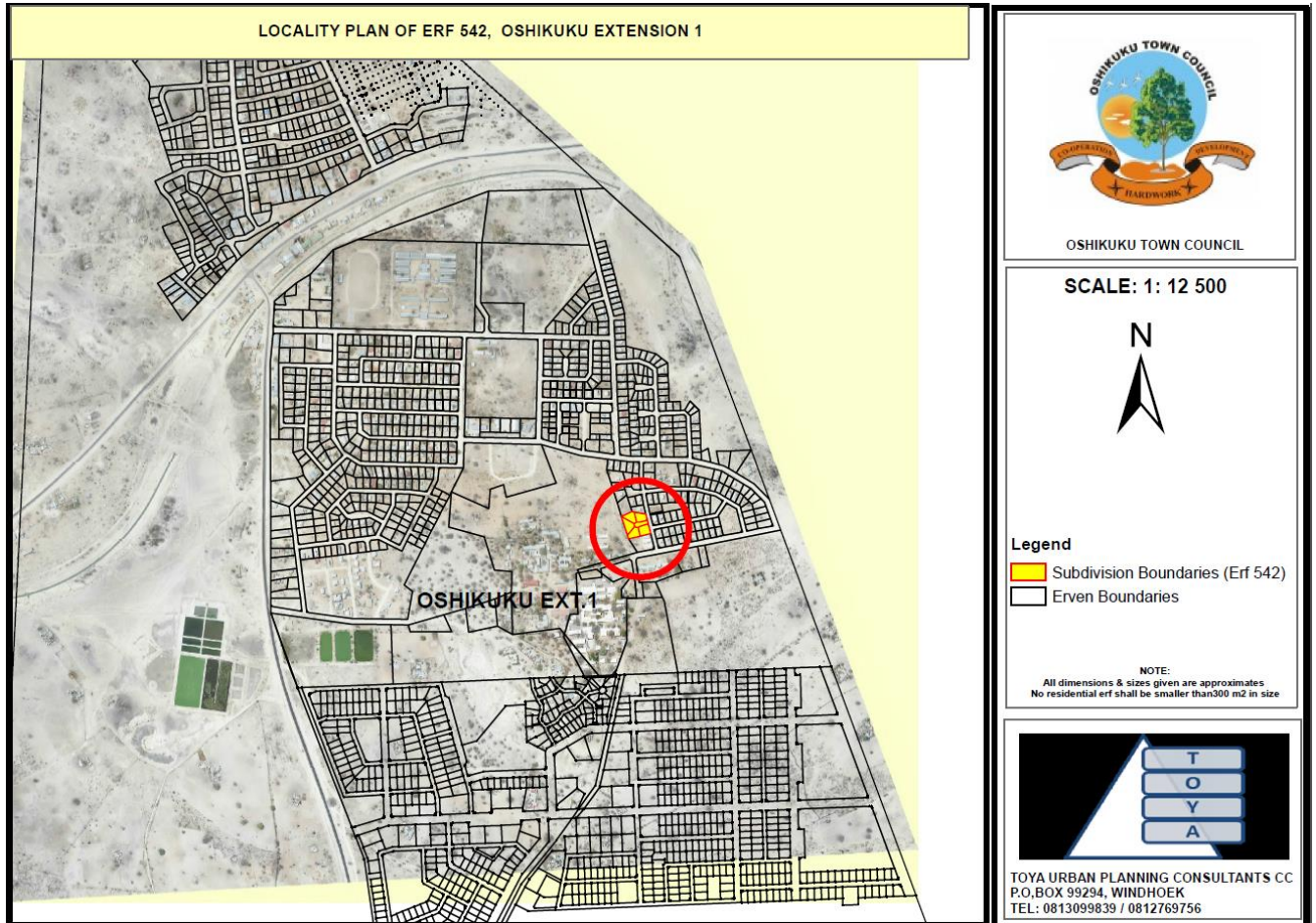


Figure 1: Locality Plan of Erf (Source: TOYA, 2020)

2.2 Existing situation

Erf 542 is currently zoned 'Single Residential' with a density of 1:450m². There are no conditions registered against this Erf that might prohibit the proposed development or the subdivision. In terms of the Deed of Transfer No. T 1607/2018, Erf 542 is registered in the name of Mr. Sevelinus Nakale.



Figure 2: Site context

The site was previously a traditional homestead before the establishment of Oshikuku extension 1, but currently barren and has no service line running through it. The site has a flat elevation with no water depression feature and the vegetation on the site consist of a thorn tree, two indigenous trees, namely *sycamore fig* (omukwiyu) and *bechmeia discolor* (omuye) and numerous makali palm saplings (lihale/iivale). The photographs presented below summarizes the site context and its surroundings.

2.3 Adjacent development, accessibility, and municipal services

Oshikuku extension 1 in which the development site is located, is one of the oldest townships consisting mainly of houses, business, and schools. In the close vicinity of the site, there are two primary schools and the Oshikuku district hospital.



Figure 3: Site surrounding.

Municipal services such as freshwater connections, a sewer service line, bulk electricity, access road etc., are readily available. Hence, the proposed development is not expected to have any negative impact on these infrastructures.

2.4 Proposed activities

As depicted on Figure 4 below, the site will be subdivided into seven single residential erven and remainder as a street, for the construction of houses and a street crescent to provide access to the newly created erven.

2.4.1 Proposed sub-division.

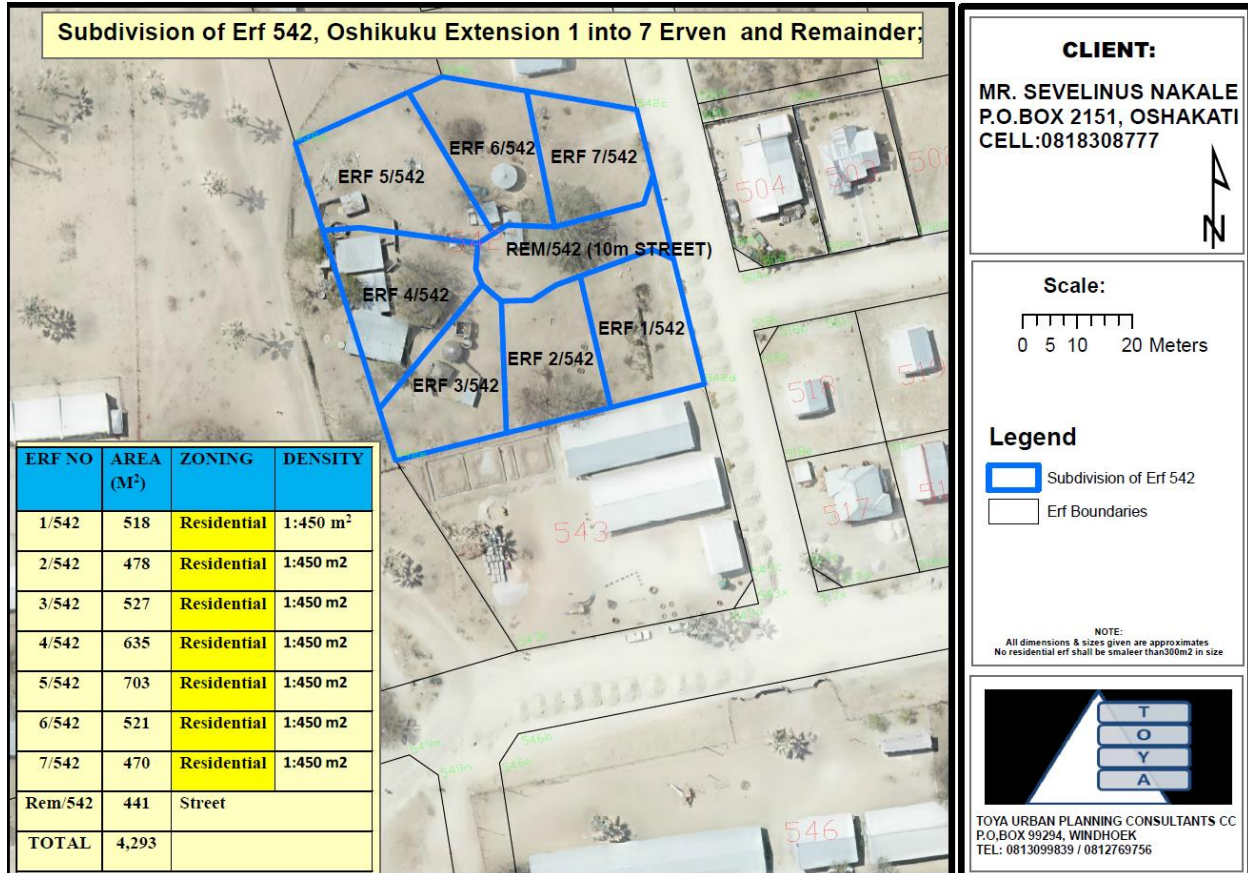


Figure 4: Proposed subdivision of Erf 542

2.4.2 Proposed zoning and land use

As depicted in the Figure 5 below, all seven erven will be zoned as residential for housing development while the remainder portion will be zoned as street for creation a public road to provide accessibility to the newly created erven.

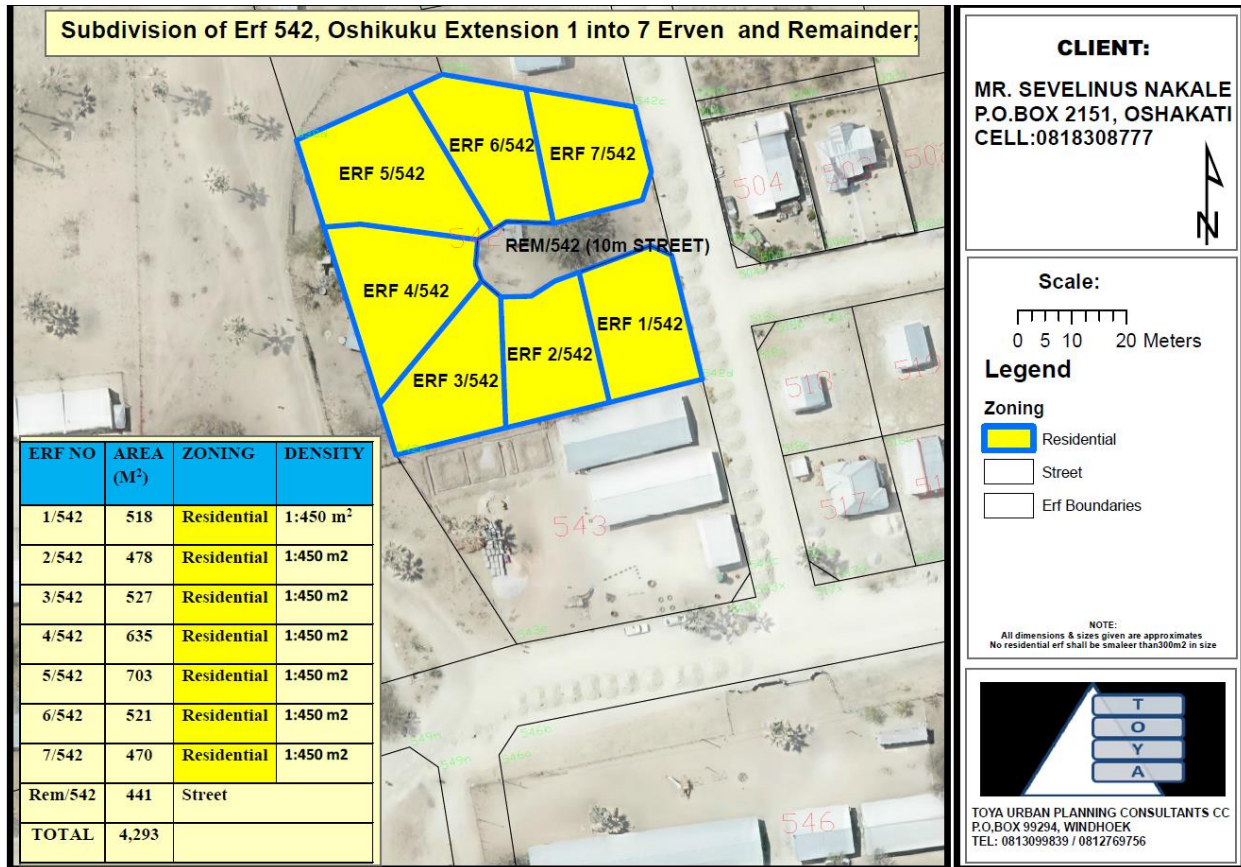


Figure 5: Proposed land zoning

The proposed internal street network will be 10m in extent and will occupies approximately 441 m² of land. It will be connected to the existing street network in Oshikuku Extension 1. This access street is wide enough to accommodate the minimum traffic to be generated by the proposed development.

2.5 Project alternatives

The EIA Regulations stipulates that the Scoping process should investigate alternative development options to any proposed developments. The following alternatives were analyzed.

- **Land use alternatives:** The proposed land use (housing and street/public road) on the development site (Erf 542) is compatible with the existing development, no alternative land use options were considered.
- **No-Go option** will mean, leaving the proposed development site as it is. In this case, the creation of a public road is necessary to provide access to the newly created erven. Hence, the No-Go option will not be an ideal alternative.

2.6 Need and desirability.

The proposed land use will improve the property value and generate the much-needed income to the Town Council in terms of Rates and Taxes. The proposed development will not compromise the integrity of the existing environmental management priorities for the area.

The proposed site is desirable given the fact that basic infrastructural services such as electricity supply, water, a sewer system, and road network are easily accessible. It is also believed that this development will benefit the Oshikuku Town due to job creation, housing delivery and economic spin offs created by the development. The approval of this application would not compromise the integrity of the existing environmental management priorities for the area.

3. APPROACH TO THE ENVIRONMENTAL STUDY

Given the nature of the proposed activities, the scoping assessment approach entails the following approaches.

- Site visits to collect primary data.
- Legal and policy review
- Gathering over existing information pertaining to similar developments and issues
- Discussions, meetings, and site visits with the proponent, town planner and the local authority officials.
- Incorporate opinions and concerns raised by interested and affected parties (I&AP's).
- Make professional judgment and recommendations.

3.1 Baseline study

3.1.1 Site Visits

Sites visit was conducted to collect biophysical data such as:

- Flora and Fauna of the area
- Roads and traffic information
- Land use and adjacent areas
- Hydrological features
- Soil and Geology
- Topographic features, etc.

3.1.2 Review of policy and relevant documents/Literature

The following literature was reviewed:

- Local Authorities Act of 1992 (Act 23 of 1992)
- Town Planning Ordinance of 1954 (Ordinance 18 of 1954)
- Townships and Subdivision of Land Ordinance of 1963 (Ordinance 11 of 1963)
- Oshikuku Town Planning Amendment Scheme No 10.
- Environmental Management Act (Act 7 of 2007)

3.2 Public participation process

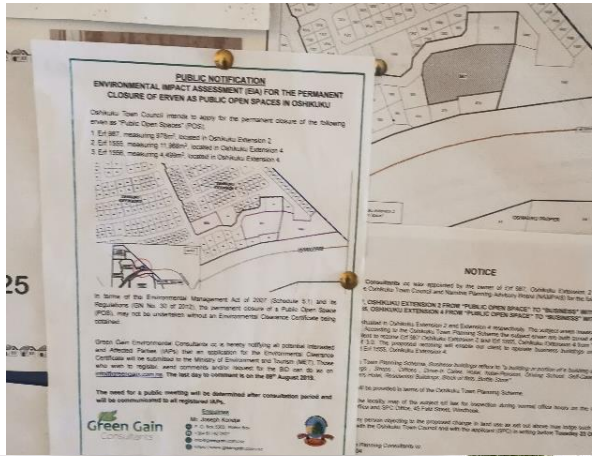
The Environmental Assessment Regulations specifies that a public participation process must be conducted as an integral part of the EIA study. This was adhered to, as potential I&AP's and relevant stakeholders were invited to register and forward concerns/comments to ensure an equitable and effective participation.

3.2.1 Notification of I&APs and stakeholders

Potential I&APs were notified through newspaper advertisements in accordance with section 21 (2) of the Environmental Regulations of (GG6 of February 2012). Public notices were advertised twice in two local Newspapers; New Era 22 & 26 January 2021 and the Confidante newspaper for 24 & 28 January 2021 (See attached proof of consultations).

Public notices were also displayed at the Oshikuku Town Council notice board and at the

development site. The public notices provided brief information about the proposed project and the EIA process. The public advertisement and notices provided in invitation to any potential interested and affected to be registered and/or send comments for consideration. A public meeting was to be decided upon the consultation process if need arises. The deadline for registration for I&AP's and submission of comments was on the 12 February 2021.



3.2.2 Key stakeholders consulted.

Apart from public invitations and notifications, the consultant has identified key stakeholders with relevant authorities to the proposed activities. These includes various departments within the Oshikuku Town Council, Government Ministries and Public Enterprises. A full list of Stakeholders and IAPs that were consulted is appended to this report (Appendix B).

3.3 Summary of issues from consultation

| ISSUE RAISED | EAP COMEMNTS |
|--|--|
| What type of development will be developed at this site? | The site will be rezoned to business for development of a Business complex |
| How big will be the street? | About 10m wide and 441m ² in extent. |
| What about the existing house | The existing properties will be accommodated in ne of the seven erven, See figure 4 &5 of this document. |
| Will the current municipal service suffice to accommodate the proposed development | Yes, municipal services such as water, sewer line, electricity are believed to be sufficient to accommodate the new houses |
| What are traffic measures to the existing busy road? | The proposed street will intersect the existing street, there will be road marking and signs to regulate traffic flow. |

4. LEGAL REQUIREMENTS

4.1 Environmental Requirements

The Environmental Management Act (EMA) No.7 of 2007 and the Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1995) set the guiding policy/ legal framework for environmental management in Namibia. The intended activities will trigger certain activities listed under the EMA regulation of 2012 amended.

| Listed Activity in terms of the EMA, No. 07 of 2007 | Description of activity that requires an EIA |
|--|---|
| <p>10. Infrastructure</p> <p>10.1 The construction of –</p> <p>b). Public Roads</p> <p>10.2 a route determination of roads and design of associated physical infrastructure were.</p> <p>a). It is a public road.</p> <p>b). a road reserve is wider than 30meters; or</p> <p>c). a road caters for more than one lane of traffic in both directions</p> | <p>The proposed developments will require</p> |

4.2 Applicable Legislations

This section provides a review of applicable and relevant Namibian legislation, policies and guidelines regarding the environment which was considered while conducting the Scoping/EIA for the proposed project.

Table 2: Namibian Legislation relevant to the project

| c | PROVISION | PROJECT IMPLICATION |
|---|--|--|
| 1. National Legislation | | |
| Constitution of the Republic of Namibia (1990) | <p>The articles 91(c) and 95 (i) commits the state to actively promote and sustain environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include:</p> <ul style="list-style-type: none"> - Guarding against overutilization of biological natural resources, - Limiting over-exploitation of non-renewable resources, - Ensuring ecosystem functionality, - Maintain biological diversity. | The proposed development must be of sound environmental management objectives. |
| Environmental Management Act No. 07 of 2007 | <p>The purpose of this Act is to promote the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment; to provide for a process of assessment and control of projects which may have significant effects on the environment; and to provide for incidental matters. The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedure for adequate public participation during the environmental assessment process for the interested and affected parties to voice and register their opinions and concern about the proposed project.</p> | This has been complied with; thus an EIA was carried out and an ECC has been applied for prior to the creation of the proposed road. |
| Water Resources Management Act 2004 | <p>The Water Resources Management Act (No 11 of 2013) stipulates conditions that ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of</p> | The protection of ground and surface water resources should be a priority. Obligation not to pollute surface water bodies. |

| | | |
|---|---|---|
| | sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner. | |
| Pollution Control and Waste Management Bill | This Bill serves to regulate and prevent the discharge of pollutants to air and water as well as providing for general waste management. This Bill will license discharge into watercourses and emissions into the air. | All activities shall be conducted in an environmental sustainably manner. |
| Labour Act (No 11 of 2007) | 135 (f): “the steps to be taken by the owners of premises used or intended for use as factories or places where machinery is used, or by occupiers of such premises or by users of machinery in connection with the structure of such buildings of otherwise in order to prevent or extinguish fires, and to ensure the safety in the event of fire, of persons in such building;” (Ministry of Labour and Employment Creation) | Contractors, Sub-contractor shall be guided by this Act when recruiting or handling employment related issues. |
| Noise Control Regulations (Labour Act) | It is essential to ensure that before any development project is approved and undertaken, an assessment or evaluation of expected noise level is done. | Noise generation during construction/development should be minimized to the satisfactory of neighboring residents and the town Council. |
| Town and Regional Planners Act, 1996 (Act No. 9 of 1996) | This Act establishes the Namibian Council for Town and Regional Planners, defines functions, and powers of the Council and provides for the registration of town and regional planners and the supervision over their conduct. The Minister may, on recommendation of the Council prescribe the kinds of work of a town and regional planning nature which shall be reserved for town and regional planners. The Act also defines improper conduct and defines disciplinary powers of the Council. Furthermore, the Act provides for the establishment of national, regional, and urban structure plans, and the development of zoning schemes. It also deals with a variety of related land use control issues such as | A registered Town Planner has been appointed for this project. |

| | | |
|---|---|--|
| | the subdivision and consolidation of land and the establishment and extension of urban areas. | |
| Town Planning Ordinance (No. 18 of 1954) | Subdivision of land situated in any area to which an approved Town Planning Scheme applies must be consistent with that scheme (S31). | Town Planning Procedures will be registered through the NAMPAB |
| Oshikuku Town Planning amendment Scheme No.2 | Identify different land use categories, zoning, use and consent use. “Public Open Space” is referring to as a land which is under or will be under the ownership of the local authority, which is not leased nor will it be leased on a long-term basis, and which is utilized or will be utilized as an open space or a park, garden, picnic area, playground or square and includes a public place. | Consent was obtained from the Town Council for the proposed activities. Town Planning procedures will be registered, and approval will be requested from NAMPAB. Consent must be obtained if any other activities are required. |
| Local Authorities Act (No. 23 of 1992) | The purpose of the Local Authorities Act is to provide for the determination, for purposes of local government, of local authority councils; the establishment of such local authority councils; and to define the powers, duties, and functions of local authority councils; and to provide for incidental matters. | Consent for the proposed project has been obtained from Oshikuku Town Council. |
| Soil Conservation Act 76 of 1969 | The Soil Conservation Act stipulates that the combating and preventing of soil erosion should take place; the soil should also be conserved, protected, and improved, vegetation and water sources and resources should also be preserved and maintained. When proper mitigation measures are followed along the construction and implementation phase of the project, the natural characteristics of the property is expected to have a moderate to low impact on the environment. | This should be complied with during the construction phase as outlined in the EMP for this project. |

5. DESCRIPTION OF THE EXISTING ENVIRONMENT

This chapter provides an overview of the baseline biophysical and social environmental conditions, with which the proposed project will interact. This information has been sourced from observations made and photographs taken during site visits, the team's experience and existing literature from previous research conducted in the area. It also presents a background against which the positive and negative impacts of the proposed options can be assessed.

5.1 Biophysical

5.1.1 Climate

Northern Central is defined as a semi-arid to sub-humid climate, with hot summers and warm winters. The average annual rainfall in Oshikuku is about 470 mm occurring between October and April, with the heaviest falls from January to March and the peak in February. The soils are sandy, allowing high infiltration and the average annual evaporation is about 2 800 mm. Consequently, there is no flow in the drainage channels during the dry season. The rainfall pattern is highly variable in amount and distribution. Temperatures are also cooler and more moderate, with approximate seasonal variations of between 10 and 30 °C (Kangombe, 2010).

5.1.2 Topography

This Oshikuku town is located between 1000 - 1100 meters of altitude. It is surrounded on the north, west and east by oshanas as low-laying areas prone to floods. This town is developed at the south of the main road Oshakati - Ruacana and water canal. Higher lands are located on the extreme south of the town occupied by the hospital, cemetery, and a future development area, outside the existing town boundaries, named Makalani Palms.

Oshikuku Extension 1 is characterized by a flat slope and is not prone to seasonal flooding that affect Oshikuku Town on a yearly basis.

5.1.3 Hydrogeology and Flood Risks

Oshikuku town is located between two oshanas, which are flood prone areas, affecting parts of the town due to their overflow. At the same time, the Ruacana-Oshakati water-canal presence within town boundary is another hazard, affecting neighboring areas when overflow. There are some low-laying areas within town boundaries that are affected by heavy rainwater, aggravated by the lack of a proper storm water drainage system, provoking that the rainwater stands still, affecting houses and other properties.

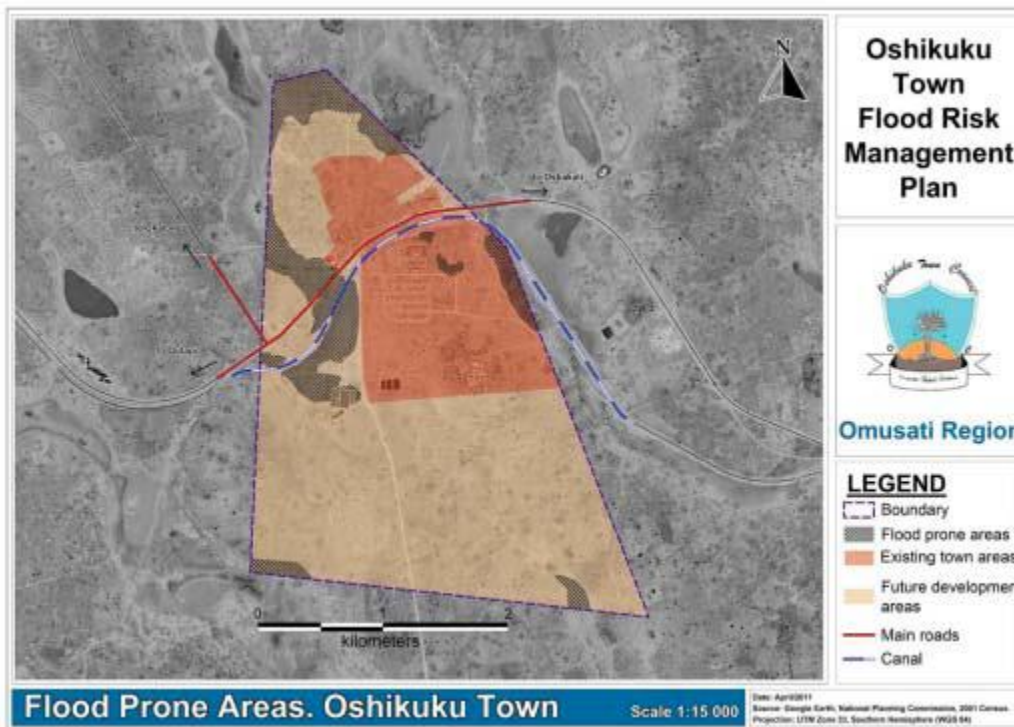


Figure 6: Flood Risk Assessment of Oshikuku

5.1.4 Soil and Geology

The soil of the northern Namibia is dominated by 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. The soil type classification is termed to be favorable for crop cultivation and plant grow in general, and this is determined by its physical properties to the nature of water retention, lower salinity, and high nutrient level. In principle, the soil comprises of mosaic soil type such as clay and average salty clay. This determines that the main soil dominance is *Eutric Cambisols* that characteristic by its definition on consistency, colour and structure. On extent, it is found in the depression of low-lying areas of the landscape, and typically contain accumulations of calcium carbonate. (Mendelsohn, 2002).

5.2 Socio-economic profile of the area

5.2.1 Oshikuku town overview

Oshikuku is a town located in the Northeastern part of the Omusati Region, about 60 kilometres east of the town of Outapi (capital of the region) and 30 kilometres from the town of Oshakati (capital of Oshana Region). The town is easily accessible through the Oshakati-Ruacana road. It is the district capital of Oshikuku Constituency (8299 inhabitants). The population of the town area is estimated in 2800 inhabitants. Due to its condition of town is the seat of the Constituency and Town Council Offices. There is a rapid population growth, due to the privileged location of the town, in the Oshakati-Ruacana road, as well as to the proximity to Oshakati, the most important urban centre of the north of Namibia. Also has an intense commercial/business development along main road.

5.2.2 Bulk service supply

- **Water Supply:** NAMWATER provides the service to the town, through the Village Council. There is a water supply network that totally covers the south part of the town and partially the north part, where a water supply project is to be implemented soon. The main source of water is the Ogongo treatment plant, with two water towers in the NAMWATER facilities for its distribution to the town.
- **Sewerage & Drainage:** The existing system serves most of the planned areas through a reticulated network, pump stations and oxidation ponds. The informal settlements are not served by sewerage; the solutions are through septic tanks, pit latrines and others. No drainage system is in place at a moment, only partial solutions especially along the main road.
- **Communication & Electricity:** The town has accessibility to selected services/facilities. These include television, radio, newspaper, telephone, and computer. Most of the town's electricity is served via NORED, although some areas within the existing informal settlements are not yet served.

5.2.3 Economic and Social development

The businesses are located mostly along the Oshakati-Ruacana road and cover most of the occupied land located north of the road. Residential areas are mostly in the south of the road, with a consolidated structure in the Oshikuku proper zone.

The town has got infrastructure necessary for economic development. The town is served with shopping centres, large open markets, and several tourism facilities. The town also houses shopping malls with well-known retail brands, such as Shoprite, PeP store etc. This brings numerous people from nearby villages and towns to come for shopping and other services in town.

5.2.4 Education and Health

The town has a public hospital and clinic, a private doctor (general practitioner) and pharmacies. Oshikuku has public and private educational facilities which cater for primary and secondary learners. Some schools have accommodation for learners residing out of town. There are also a few institutions of higher learning which are accredited by Namibia Qualification Authority.

5.2.5 Land use and availability

The town is subdivided into two major areas, due to the presence of the Oshakati-Ruacana road that divides the town, so the town lands boundaries are sectioned in two areas (north and south). The south part is the most compact and organized than the north part (Okapya area). The boundaries of the existing town lands are, on the north: Okapya area; east: Ruacana – Oshakati water canal; south: hospital border and west: road to Elim. For future development, the town has an extension boundary, with some areas on the north, but most of the reserved land is located on the south (remainders of Oshikuku town lands No 991).

Oshikuku is a favourable investment hub for investors seeing that it is the capital of the Oshikuku Constituency and the second largest urban centre in Omusati Region after Outapi. The Main Road from Oshakati to Ruacana runs through Oshikuku therefore large volumes of vehicle and pedestrian traffic moves through the Town which makes it a prime area for investors.

The Town Council needs to cope with the huge demand for available serviced erven, including residential, business, and institutional erven. At the current moment, the supply of erven is not meeting the demand for serviced erven therefore creating a backlog of available serviced erven.

6. ASSESSMENT OF PROJECT IMPACTS

The EIA Regulations require “a description of the significance of any significant effects, including cumulative effects, which may occur as a result of the undertaking of the activity”.

The scoping process has identified potential project impacts during its planning and operation phase and examined each of these issues. In assessing the impact of the proposed development, four rating scales were considered. Each issue identified was evaluated in terms of the most important parameter applicable to environmental management. These include the extent, intensity, probability, and significance of the possible impact on the environment. The rating scales used are as follows.

Table 3: Significance Assessment criteria

| CRITERIA | DESCRIPTION | | | |
|---------------------|---|--|---|--|
| EXTENT | National (4) The whole country | Regional (3) Omusati region and neighbouring regions | Local (2) Within a radius of 2 km of the proposed site | Site (1) Within the proposed site |
| DURATION | Permanent (4) Mitigation either by man or natural process will not occur in such a way or in such a time span that the impact can be considered transient | Long-term (3) The impact will last for the entire operational life of the development but will be mitigated by direct human action or by natural processes thereafter. | Medium-term (2) The impact will last for the period of the construction phase, where after it will be entirely negated | Short-term (1) The impact will either disappear with mitigation or will be mitigated through natural process in a span shorter than the construction phase |
| INTENSITY | Very High (4) Natural, cultural, and social functions and processes are altered to extent that they permanently cease | High (3) Natural, cultural, and social functions and processes are altered to extent that they temporarily cease | Moderate (2) Affected environment is altered, but natural, cultural, and social functions and processes continue albeit in a modified way | Low (1) Impact affects the environment in such a way that natural, cultural, and social functions and processes are not affected |
| PROBABILITY | Definite (4) Impact will certainly occur | Highly Probable (3) Most likely that the impact will occur | Possible (2) The impact may occur | Improbable (1) Likelihood of the impact materialising is very low |
| SIGNIFICANCE | Is determined through a synthesis of impact characteristics. Significance is also an indication of the importance of the impact in terms of both physical extent and time scale, and therefore indicates the level of mitigation required. The total number of points scored for each impact indicates the level of significance of the impact. | | | |

Table 4: Criteria for significance ratings

| | |
|---|--|
| Low impact (1-4) | A low impact has no permanent impact of significance. Mitigation measures are feasible and are readily instituted as part of a standing design, construction, or operating procedure. |
| Medium impact (5-8) | Mitigation is possible with additional design and construction inputs. |
| High impact (9-12) | The design of the site may be affected. Mitigation and possible remediation are needed during the construction and/or operational phases. The effects of the impact may affect the broader environment. |
| Very high impact (13-16) | Permanent and important impacts. The design of the site may be affected. Intensive remediation is needed during construction and/or operational phases. Any activity which results in a "very high impact" is likely to be a fatal flaw. |
| Status | Denotes the perceived effect of the impact on the affected area. |
| Positive (+) | Beneficial impact |
| Negative (-) | Deleterious or adverse impact. |
| Neutral (/) | Impact is neither beneficial nor adverse |
| It is important to note that the status of an impact is assigned based on the status quo – i.e., should the project not proceed. Therefore, not all negative impacts are equally significant. | |

7. ANTICIPATED PROJECT IMPACTS AND MITIGATION MEASURES

The construction and operation of the proposed development and its associated infrastructures may result into several potential impacts on the physical, biophysical, and socio-economic environment of the proposed site. These impacts could be positive, negative, or neutral. Below is description of potential impacts that may arise because of the project based on its context, knowledge of the area, issues raised, and information provided during the public participation process.

Table 5: Potential Impacts during planning & design and development/construction.

| ASPECT | POTENTIAL IMPACTS | RATING (If it does occur) | | | | SIGNIFICANCE OF IMPACT | MITIGATION/ENHANCEMENT MEASURES |
|-------------------------|--|---------------------------|----------|-----------|-------------|------------------------|---|
| | | Extent | Duration | Intensity | Probability | | |
| 1. BIOPHYSICAL | | | | | | | |
| Impact on Vegetation | <ul style="list-style-type: none"> Vegetation clearance during construction | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> The clearance of existing vegetation is inevitable. However, the development site has little to no vegetation. |
| Impact on small animals | <ul style="list-style-type: none"> Construction of roads more than 3m have been known to effect small mammals such as voles and rats. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Under road structures to be used can still accommodate small animals. |
| Soil contamination | <ul style="list-style-type: none"> Contamination of soil with chemicals (sodium chloride, Calcium magnesium acetate, etc.) which found in deicer agents | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> Any spillage of oil, lubricant etc. must be cleaned up. Environmentally friendly and recommended products must be used for road marking. |

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| Impact on drainage Impact on the | <ul style="list-style-type: none"> Construction works may divert the natural stormwater drainage of the site. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Make provision for storm water drainage. |
| Visual impacts | <ul style="list-style-type: none"> Uncompleted construction works may decrease the visual attraction of the area | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> All waste should be collected and disposed of weekly. |
| Air quality | <ul style="list-style-type: none"> Dust generation from construction work may decrease air quality. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> Control dust generation during construction period. |
| | <ul style="list-style-type: none"> Fumes from traffic (road users) and emission of leads from moving vehicles may pollute the air. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Construction of the proposed road network will be a small project which present minimal impacts. |
| Water usage | <ul style="list-style-type: none"> The construction of the proposed road will make use of water in its construction phase. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Given the size of the proposed road (441m²), the impact on water resource availability is limited. |
| 2. SOCIO-ECONOMIC | | | | | | | |
| Traffic impacts | <ul style="list-style-type: none"> Construction works will increase traffic congestion in the nearby street. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> Erect construction signals at the construction site. There must be at least two flag bearers at the construction site to direct traffic flow. |
| Nuisance in the form of noise and vibration | <ul style="list-style-type: none"> Generation of excessive noise during construction and operation may be nuisance to the residents. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Construction should be limited to daytime. |

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|-----------------------------------|---|---|---|---|---|----------|---|
| Waste generation | <ul style="list-style-type: none"> The construction, operation may result in a myriad of waste products in the environment. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> All waste generated during construction should be contained and disposed properly. |
| Temporary camps | <ul style="list-style-type: none"> Construction camps onsite can result in secondary environmental impacts i.e., pollution, noise etc. | 1 | 1 | 1 | 2 | Moderate | <ul style="list-style-type: none"> If need be, construction camps should be established at the site approved by the Town Council. Provide ablution facilities for at the construction site. |
| Health, Safety and Security | <ul style="list-style-type: none"> The safety, security, and health of the labour force, employees and general, public may be compromised during construction. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> All employees should be provided with personal protective equipment (PPE). The construction site must be barricaded and out of bound for the public. |
| Local employment (positive) | <ul style="list-style-type: none"> The construction phase will generate temporary local employment opportunities. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> Preferences should be given to local people. |
| Business opportunities (positive) | <ul style="list-style-type: none"> Construction works will also present business opportunity for the local businesses i.e., supplies, construction etc. | 1 | 1 | 2 | 2 | Low | <ul style="list-style-type: none"> Construction materials should be sourced locally as far as possible. |

Table 6: Potential Impacts during Operation phase

Below are identified potential impacts during the operation and maintenance phase of the proposed development as well as the possible mitigation measures and enhancement measures.

| ASPECT | POTENTIAL IMPACTS | RATING (If it does occur) | | | | SIGNIFICANCE OF IMPACT | MITIGATION/ENHANCEMENT MEASURES |
|---------------------------------------|---|---------------------------|----------|-----------|-------------|------------------------|---|
| | | Extent | Duration | Intensity | Probability | | |
| 1.BIOPHYSICAL | | | | | | | |
| Impact biodiversity (positive) | <ul style="list-style-type: none"> Roadside plant will enhance biodiversity. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Provide more plants along the road |
| Impact on small animals (positive) | <ul style="list-style-type: none"> New road may provide habitant for small animals | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Culverts and other under road structures may serves as habitant |
| Visual impacts (positive) | <ul style="list-style-type: none"> The road will improve aesthetic view. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Plant trees alongside the road. |
| Impact on the soil | <ul style="list-style-type: none"> Contamination of soil with chemicals (sodium chloride, Calcium magnesium acetate, etc.) which found in deicer agents. | 1 | 1 | 1 | 1 | Low | <ul style="list-style-type: none"> Road must be of good standard |
| Water usage and contamination | <ul style="list-style-type: none"> Stormwater and surface contamination during road maintenance. | 1 | 1 | 2 | 2 | Moderate | <ul style="list-style-type: none"> Only use environmentally friendly materials and detergents. |
| Erosion and surface runoff | <ul style="list-style-type: none"> Due to increase hard surface, the surface will become impermeable, | 1 | 1 | 1 | 2 | Moderate | <ul style="list-style-type: none"> Make provision for stormwater drainage. |

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| | thus increasing the surface runoff. | | | | | | |
| 2. SOCIO-ECONOMICS | | | | | | | |
| Traffic impacts (positive) | <ul style="list-style-type: none"> New road will allow traffic free flow and accessibility. | 1 | 2 | 1 | 2 | Moderate | <ul style="list-style-type: none"> Install Traffic signs to regulate traffic flow. |
| | | | | | | | |
| Development (positive) | <ul style="list-style-type: none"> The proposed road structure will improve the quality of life to the residents. | 1 | 2 | 2 | 1 | Moderate | <ul style="list-style-type: none"> Road must be of good standard |

8. CONCLUSION AND RECOMMENDATIONS

The objective of the Scoping phase was to define the range of the impact assessment and determine the scope of the EIA study. It is believed that these objectives have been achieved and adequately documented in the Scoping report. The identified potential impacts during construction and operation phase are of moderate to low significance. Hence, the impacts are manageable provided that the proposed mitigation measures are fully implemented. These measures are outlined in the scoping report and contained in the EMP appended to this report. It is concluded that the proposed activities can be implemented without compromising the environmental integrity of the area.

8.1 Assumptions and conclusions:

- The findings of the Scoping assessment are considered sufficient and no additional specialist study is required.
- The proposed activity is planned at a time and place in a developing sector of the town and can be a natural opportunity associated with the growth of the town.
- The approval of this application would not compromise the integrity of the existing environmental management priorities for the area.
- There were no objections or critical issues have been raised by I&AP's.

It is recommended for the Environmental Commissioner to consider issuing an Environmental Clearance Certificate to authorize for the **Creation of a public road (street) at Erf 542, Extension 1 Oshikuku, Omusati region.**

9. REFERENCES

- GRN. (2013). 2011 Population and Housing Census Main Report. Windhoek: National Statistics Agency
- GRN. (2014). 2011 Housing and Population Census Regional Profile, Omusati Region. Windhoek: Namibia Statistics Agency.
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- Mendelsohn, J., Jarvis, A., Roberts, C., & Robertson, T. 2002. Atlas of Namibia. New Africa Books (Pty) Ltd: Cape Town.
- Republic of Namibia: Ministry of Environment and Tourism, (2012). Environmental Impact Assessment Regulations, GG 4878, GN 29, Windhoek: MET.
- Tamayo V, et al, Flood risk management Plan, 2011. Ministry of Regional, Local Government, Housing and Rural Development.

10.REFERENCES

- APPENDIX A: List of IAPs**
- APPENDIX B: Council approval**
- APPENDIX C Proof of Consultation**
- APPENDIX D EMP**

APPENDIX A: List of Registered IAPs

The following parties were consulted during the EIA process.

| ORGANISATION | REPRESENTATIVE AND TITLE | CONTACT DETAILS |
|--|-----------------------------|---|
| Proponent | Mr. Sevelinus Nakale | 0812705203 |
| Local Authority Oshikuku Town Council | Manager: Technical Services | 065254719 |
| | Mrs. Aili ileka | 065254719 |
| | Property Officer | aileka@oshikukutc.org.na |
| | EHP Mrs. Emilia Kanahole | 065254719 |
| Town Planner | Mr. Simon Shinguto | 0853099839 sshinguto@gmail.com |
| NORED-northern regions | Mr. Isac Nekwaya | i.nekwaya@nored.com.na |
| Other IAPs/residents | | |
| Adjacent land user | Mr. Henrich Amushila | 0812594543 |
| | Mrs. Ndapewa Amushila | 0812594543 |
| Residents | Mr. Uupindi | 0816464642 |
| | Mr. Severus Shivolo | 0816479978 |
| | Mr. Fares Petrus | 0812626250 |
| | Ms. Justin Nghihangwa | 0816634039 |
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