

ENVIRONMENTAL IMPACT ASSESSMENT

FOR THE
PROPOSED CLOSURE OF ERF 6260, ONDANGWA EXTENSION 22 AS A
PUBLIC OPEN SPACE AND SUBSEQUENT REZONING WITHIN
ONDANGWA TOWN, OSHANA REGION, NAMIBIA



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LIST OF ABBRECIATIONS

TERMS	DEFINITION
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
DEA	Department of Environmental Affairs
MET	Ministry of Environment and Tourism
PPPPs	Projects, Plans, Programmes and Policies
NDC	Namibia Development Consultants
SANS	South African National Standards
I&APs	Interested and Affected Parties

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1. INTRODUCTION AND BACKGROUND

Onamulunga Service Station Trading proposes the closure of Erf 6260, Ondangwa Extension 22 as a public open space and subsequent rezoning in Ondangwa Town, Oshana Region in northern Namibia, to construct business buildings (Fuel Retail Facility).

Nghivelwa Planning Consultant has been appointed to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the closure of the public open space and subsequent rezoning to business for the construction of a fuel retail facility. The Environmental Impact Assessment has been conducted to meet the requirements of Namibia's Environmental Management Act (No. 7 of 2007).

An EIA may be defined as: a formal process to predict the environmental consequences of human development activities and to plan appropriate measures to eliminate or reduce adverse effects and to augment positive effects.

EIA thus has three main functions:

- To predict problems,
- To find ways to avoid them, and
- To enhance positive effects.

1.1 Terms of Reference

The proposed closure of Erf 6260, Ondangwa Extension 22 as a public open space and subsequent rezoning to business purposes is a listed activity that cannot be undertaken without an Environmental Clearance Certificate. Thus, as part of the commissioning process an Environmental Impact Assessment (EIA) is required. Therefore, Onamulunga Service Station Trading appointed Nghivelwa Planning Consultant to provide consultancy services to undertake an environmental impact assessment that complies with the Environmental Management Act (2007).

The Terms of Reference (ToR) for the consultants are, but not limited to the following:

- The collection of all possible data on the environmental, social and natural resource components and parameters of necessity;
- A description of the location of the proposed project including the physical area that may be affected by the project activities;
- Description of the design of the proposed project;
- Description of the activities that will be undertaken during the project construction, operation and decommissioning phases;
- Listing of the materials to be used, products and by products, including waste to be generated by the project and the methods of disposal;
- Identification of the potential environmental impacts of the proposed project and
- The mitigation measures to be taken during and after implementation of the project;
- Accidents during the project cycle;
- Establishment of a plan to ensure the health and safety of the workers and neighbouring communities;
- Identification of the economic and socio-cultural impacts of the proposed project;
- Economic and social analysis of the project including project risk and measures to mitigate them.
- Establishment of an action plan for the prevention and management of possible (EMP).
- The consultant will prepare recommendation on the project for its future use.

1.2 Acknowledgement

Nghivelwa Planning Consultants have prepared this EIA Scoping Report on behalf of the Onamulunga Service Station. The proponent (Onamulunga Service Station Trading) has provided the necessary information, documents and provided the necessary guidance during the study and preparation of the scoping report. The Consultant (Nghivelwa Planning Consultant) gratefully acknowledges the help, advice and information provided by Onamulunga Service Station Trading management as well as the support and interest shown by all the identified stakeholders.

2. PROJECT DESCRIPTION

The proposed development is for the closure of Erf 6260, Ondangwa Extension 22 as a public open space and subsequent rezoning to business purposes within Ondangwa Town, Oshana Region in northern Namibia, to cater for the construction of a fuel retail facility.

The project involves the Constructions of business buildings (Fuel Retail Facility), the constructions and installations of bulk services such as Sewer Water Reticulation, the connection and installation of Electricity, the connection and installation of Drinking water to the buildings and the maintenance of the storm water network which will be the responsibility of the proponent.

The proponent will also be responsible for the maintenances of the site during operational phase such as Waste management from site, Noise Pollution control, light pollution to save energy, safety as well as technical maintenance of the afore-mentioned services.

There are no specific details of the exact design of the development of the site due to the fact that the entire project is still in the designing phase.

2.1 Site Locality

Erf 6260 is located in Ondangwa Extension 22 along opposite the Ondangwa Airport and along the C45 Main Road from Ondangwa to Ongwediva in Oshana Region, Namibia. The proposed site covers the area of 2346m². The GPS coordinates of the location of the proposed project site are (17°53.283' S; 15°56.423' E).



Figure 1: Locality Map

2.1.1 Land Zoning and Ownership

Erf 6260, Ondangwa Extension 22 is currently zoned for “Public Open Space” purposes and is owned by the Ondangwa Town Council. Onamulunga Service Station Trading, a subsidiary of Namibia Service Maintenance is in the process of purchasing the property from Ondangwa Town Council and is in the process of the closure of Erf 6260, Ondangwa Extension 22 as a

“Public Open Space” and subsequent rezoning to business purposes to allow for the construction of a fuel retail facility.

2.2 Site Descriptions

Erf 6260, Ondangwa Extension 22 (Public Open Space) is surrounded by business erven that are owned by the proponent. The erf is lying in a relatively flat area and is currently vacant. The land around the site is also undeveloped and is ideal for the proposed development. The site lies opposite the Ondangwa Airport and along the C45 Main Road from Ondangwa to Ongwediva.



Figure 2: Vacant site

2.3 Proposed Activities

The proposed activities entail the following:

- Closure of Erf 6260, Ondangwa Extension 22 as a “Public Open Space”; and
- Rezoning of Erf 6260, Ondangwa Extension 22 from “Public Open Space” to “Business”.

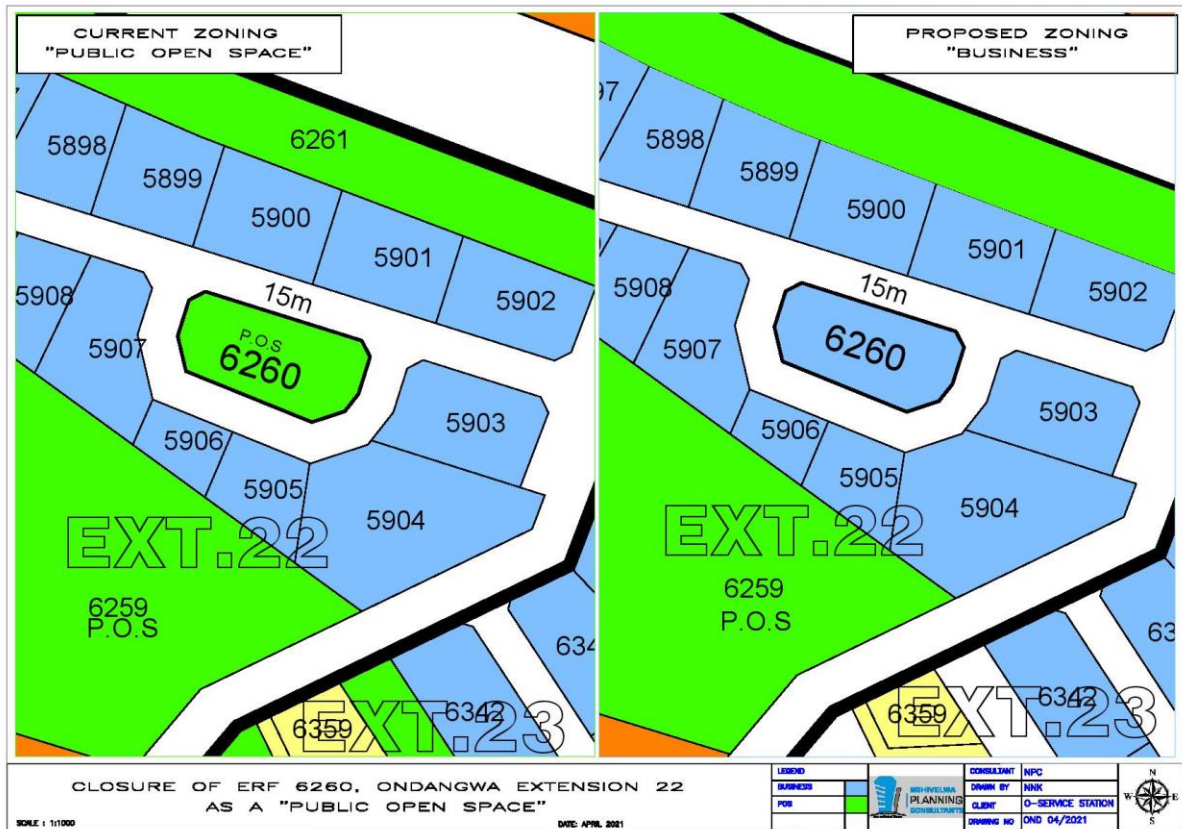


Figure 3: Layout Plan of the Site

Erf 6260 measures $\pm 2346\text{m}^2$, after the implementation of the statutory town planning procedures the Erf will be permanently closed as a “Public Open Space” and rezoned to business.

2.4 Need and Desirability of the Proposed Project

The Ondangwa Town Council is in a process of selling Erf 6260, Ondangwa Extension 22 to Namibia Service Maintenance that owns Onamulunga Service Station Trading CC who will intern develop the Erf into a fuel retail facility.

Namibia Service Maintenance currently owns the business properties adjacent Erf 6260 and plans to construct a shopping mall on these properties. The Fuel Retail facility will be located in the center of this shopping mall to facilitate business within the proposed development.

The Erf site is strategically located opposite the Ondangwa Airport and the C45, Main Road from Ondangwa to Ongwediva. Thus, Erf 6260, Ondangwa Extension 22 is central to the development proposal of the area and will be vital to success of the proposed development.

3. ANALYSIS OF ALTERNATIVES

In terms of environmental impact assessment best practice, assessment of potential impacts from a proposed activity must include the assessment of alternatives. Assessment of alternatives is undertaken to identify the option that will minimise harm to the environment and may include site, technology and other alternatives, but must always include the option of not implementing the activity, known as the “no-go” alternative.

3.1 Alternative Site

The proponent has the option of undertaking the proposed development in a different location other than the chosen site. This could also entail acquiring land elsewhere to carry out the development.

Due to land availability and service connections, the proposed site, Alternative 1, is the only site that has been identified for the proposed development during the consultation process with the Proponent and Ondangwa Town Council. Therefore, no alternative site has been identified or considered during this study.

The following reasons justify the use of the proposed site for the development:

- The proposed change in land use was found to be ideal for the proposed development for constructing a fuel retail facility.
- The proposed site is easily accessible and close to existing municipal services such as roads, electricity, and water except the sewage connection.
- The land is in a business zone, therefore no red data recorded on the proposed land which might hinder the development on the proposed land.
- There is adequate space for the proposed development on the proposed land which is 2346m² in extent.
- It will create job opportunities for the local or Namibians in both construction and operational phases which will improve their skills.

3.2 The “No Project” Alternative

The No-Go Option is the option not to proceed with the proposed activity, implying a continuation of the current situation/ status quo. Therefore, the No-go Alternative would mean that no closure and rezoning of Erf 6260, Ondangwa Extension 22 will take place). Should the proposed development not take place, it will be a serious blow to the economic development of Ondangwa Town. In the environmental-socio-economic point of view, the no project option is the least preferred option due to the following factors:

- Currently the site is vacant and needs to be developed to stimulate economic activity.
- The local skills would remain underutilized.
- No employment opportunities will be created for the locals who would work on the project.
- Poverty will not be eradicated in terms of job creations.

This is therefore not a desirable alternative as the option of not closing the public open space, will be detrimental to the economic environment of the town.

4. POLICY AND OTHER RELEVANT LEGISLATIONS

Subject	Instruments and Content	Application to the project
The Constitution of the Republic of Namibia	<i>General human rights – eliminates discrimination of any kind</i>	<i>Ensure these principles are enshrined</i>
	<i>The right to a safe and healthy environment</i>	<i>in the documentation of the exploration</i>
	<i>Affords protection to biodiversity</i>	<i>project</i>
Environmental Management Act EMA (No 7 of 2007)	<i>Requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27). Details principles which are to guide all EAs.</i>	
Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 487	<i>Details requirements for public consultation within a given environmental assessment process (GN 30 S21). Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15).</i>	
Forestry Act No 27 of 2004	<i>Provision for the protection of various plant species</i>	<i>Some species that occur in the area are protected under the Forestry Act and a permit is therefore required to remove the species</i>
Hazardous Substances Ordinance 14 of 1974:	<i>Control of substances which may cause injury or ill-health or death of human beings because</i>	<i>The waste generated on site and at the campsite should be suitably categorised/classified and disposed of</i>

	<i>their toxic, corrosive, irritant, strongly sensitizing or flammable nature</i>	<i>properly and in accordance with the measures outlined in the Ordinance and</i>
		<i>Bill</i>
The Nature Conservation Ordinance (No. 4 of 1975)	<i>Prohibits disturbance or destruction of protected birds without a permit. Requires a permit for picking (the definition of “picking” includes damage or destroy) protected plants without a permit</i>	<i>Protected plants will have to be identified during the planning phase of the project. In case there is an intention to remove protected species, then permits will be required</i>
Forestry Act 12 of 2001 Nature Conservation Ordinance 4 of 1975	<i>Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22(1)). Prohibits the removal of and transport of various protected plant species.</i>	<i>Even though the Directorate of Forestry has no jurisdiction within townlands, these provisions will be used as a guideline for conservation of vegetation.</i>
Convention on Biological Diversity, 1992	<i>Protection of biodiversity of Namibia</i>	<i>Conservation-worthy species not to be removed if not absolutely necessary.</i>
Water Act 54 of 1956	<i>The Water Resources Management Act 24 is presently without regulations; therefore the Water Act 54 is still in force</i>	<i>Obligation not to pollute surface water bodies</i>
Water Resources Management Act 24 of 2004	<i>The Act provides for the management and protection of surface and groundwater resources in terms of utilisation and pollution</i>	
National Heritage Act 27 of 2004	<i>Section 48(1) states that “A person may apply to the [National Heritage] Council [NHC] for a permit to carry out works or activities in relation to a protected place or protected object</i>	<i>Any heritage resources (e.g. human remains etc.) discovered during construction requires a permit from the National Heritage Council for relocation</i>
Labour Act 11 of 2007	<i>Details requirements regarding minimum wage and working conditions (S39-47).</i>	<i>Employment and work relations</i>

Health and Safety Regulations GN 156/1997 (GG 1617)	<i>Details various requirements regarding health and safety of labourers.</i>	<i>Protection of human health, avoid township establishment at areas that can impact on human health.</i>
Public Health Act 36 of 1919	<i>Section 119 states that “no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”</i>	<i>Onamulunga Service Station Trading should ensure that all contractors involved during the construction, operation and maintenance of the proposed project comply with the provisions of these legal instrument</i>
Water Act 54 of 1956	<i>The Water Resources Management Act 24 of 2004 is presently without regulations; therefore the Water Act No 54 of 1956 is still in force: Prohibits the pollution of underground and surface water bodies (S23(1)). Liability of clean-up costs after closure/ abandonment of an activity (S23(2)).</i>	<i>The protection of ground and surface water resources should be a priority. The main threats will most likely be concrete and hydrocarbon spills during construction and hydrocarbon spills during operation and maintenance.</i>

Table 1: Tools advocating the development

5. BASELINE DATA

This section lists the most important environmental characteristics of the study area and provides a statement on the potential environmental impacts on each. The SANS 10089-3 (2010) standards for the Petroleum Industry are used for the baseline assessment (reported on in this section) and subsequent impact assessment (reported on in Section 8) to incorporate all required and related issues in the investigation.

5.1 Locality and Surrounding Land Use

The proposed closure of Erf 6260, Extension 22, as a public open space in Ondangwa Town in Ondangwa Urban Constituency, Oshana Region is situated opposite the Ondangwa Airport along the C45 Main Road from Ondangwa to Ongwediva. See Figure 1(Site Location). The project is on an undeveloped vacant land and there is no vegetation found on the land. Furthermore, and there are no nearby occupied sites on the surrounding area of the proposed site. All traditional homesteads that are in the area have been compensated by the Ondangwa Town Council and will be relocated soon. The surrounding area is earmarked for business purposes by the Ondangwa Town Council (Site Location map).

5.2 Climate and Temperatures

The table 1 below briefly describe the general climatic conditions experienced within the Oshana Region including the Ondangwa area, as deduced from the Atlas of Namibia, by Mendelsohn et al 2003. The rainy season is limited between the months of November and April whereby an average of 350-400 mm of rainfall is estimated per annum. In addition, the Cuvelai has inconsistencies in rainfall timings which lead to great variation in the annual rainfall between 30-40 percent. Furthermore; Temperatures vary little across the Basin where the average is greater than 19°C in most areas, especially during the summer months. The annual evaporation of the Basin is known to depend on the temperature, humidity, cloud cover, wind and solar radiation. The predominant wind in the area is expected to be in the easterly direction.

Table 2: Summary of general Climate Data

Average rainfall:	Rainfall in the area is averaged to be less than 350 mm-400 mm per year.
Variation in rainfall:	Variation in rainfall is averaged to be 30-40 % per year.
Average evaporation:	Evaporation in the area is averaged to be between 2800-3000 mm per year.
Precipitation:	The highest summer rains are experienced from October to April.
Water Deficit:	Water deficit in the area is averaged to be between 1501-1700mm per year.
Temperatures:	Temperatures in the area are averaged to be more than 19-20 °C per year.
Wind direction:	Wind directions in the area are predominantly easterly winds.

5.3 Geology, Topography and drainage

The Kalahari sand plateau in the north-east was originally deposited as longitudinal dunes in an east-westerly direction. These longitudinal dunes, with associated omuramba's, form the agro-ecological zone KAL 8 (de Pauw et al. 1998/99). The drainage to the north of the Mangetti (north-east of Oshivello) is still in an east-westerly direction (the "Akadhulu" or "Akazulu"). These fossil dunes do not show a great difference in relief (compared to southern Kavango and north-eastern Grootfontein districts), probably because of erosion and thus a general flattening of the topography.

As these remnant dunes flatten out completely, the rivers "Akadhulu" and "Niipele" turn south towards the Etosha pan. Roughly 80 % of the study area, to the east of Onankali - Okankolo, falls within these fairly flat sand plains, as part of the KAL 3-3 (de Pauw et al. 1998/99). It consists of a sand drift plain with a general slope range of 0-2 % (i.e. flat), very low relative relief (< 10 m), with no preferred drainage orientation.

Drainage in the sand plateau is mainly vertical (downwards). This has resulted in the formation of numerous pans in the north-western parts of the country, spreading out up to Eenhana in the north (the KAL4 according to de Pauw et al. 1998/99). The vertical movement of water leads to increased mineralisation of the sands, thus forming finer textured, more fertile soils in these pans. Both the more fertile soils and the shallow ground water in these pans has resulted in the settling of people along these pans in the Oshana Region.

The literature review shows the results of the soil profile done at one of the above-mentioned pans, that a mini soil profile pit was dug at relevé 87138. The soil profile looked as follows:

- Top: 1-2 cm bleached white sand (could be the deposit of erosion from further up).
- A-Horizon: 30 cm deep, dark grey loamy sand.
- B-Horizon: below 30 cm, yellow grey sandy loam, very sticky to the touch. (Strohbach 1999).

The broad-leafed savannah falls within growing period zone 3 (de Pauw et al.1998/99).

5.4 Vegetation

This vegetation type is typical of the “Forest savanna and woodland (northern Kalahari)” (Giess 1971). This is described as a species-rich vegetation dominated by deciduous trees like *Burkea africana*, *Terminalia sericea*, *Lonchocarpus nelsii*, *Baikiaea plurijuga*, *Pterocarpus angolensis*, *Ochna pulchra*, *Combretum* species and *Grewia* species.

Typical trees are *Terminalia sericea*, *Combretum collinum*, *Lonchocarpus nelsii*, *Burkea africana* and *Acacia fleckii* and the shrubs *Combretum engleri*, *Acacia ataxacantha*, *Bauhinia petersiana*, *Ozoroa schinzii*, *Grewia flava*, *G. flavescens* and *G. bicolor* as well as *Commiphora angolensis*, *C. africana* and *C. glandulosa*. In KAL 8 (Omuramba-Dune association) north of King Kauluma school some *Baikiaea plurijuga* were encountered on a dune. Although this popular timber species had only a DBH of 20 cm (thus far from exploitable), some of these trees were found chopped down in this remote area.

The vegetation in this area is described as woodland dominated mainly by camelthorn shrubs. The vegetation on site consists of short grass moderately scattered around the site. The project site is currently undeveloped but clearly shows; disturbances by animals and human activities, no much clearing of vegetation will occur. There are no protected species onsite that needs to be preserved and be made part of the development.

No endangered species were observed present on site; therefore, no threat to vegetation was identified. No wildlife was observed in the vicinity of the study area, only domestic animals mainly cattle, goats and donkey are present in the vicinity of the proposed project site.

5.5 Soils

The dominant soils in the Oshana Region are haplic Arenosols associated with ferralic Arenosols (sandy soils with a very poor nutrient-retaining capability).

- Strohbach (1999) describes a mini soil profile pit at relevé 87126 as follows:
- Top 5 cm: Humus enriched, bleached yellow-grey sand
- Below 5 cm: Undifferentiated pure red sand

6. SOCIO-ECONOMIC ENVIRONMENT

6.1 Demographics

According to the 2011 National Population and Housing Census, Oshana Region has a population of 176 674, of which the vast majority (55 percent) lives in rural areas and thirteen percent (45%) live in urban areas. The Census also estimated that there are 96 559 females and 80 115 males. The population density is 20.4 persons per km² and the Human Poverty index (HPI) is 21% compared to National HPI of 24.7. Life expectancy is 61 years for females and 50 years in males. Most eighty-six (86%) of the households residing within the Oshana Region, speak Oshiwambo.

6.2 Economic activities

There has been immense commercial and industrial growth in Oshana Region. Various shopping malls, schools and other businesses have opened in the area and have improved both the economic and social stance of the Region. However, much of the economy of the Oshana region is still based on farming.

6.3 Education Profile

The Oshana Region is well placed with regards to academic rates in the whole of Namibia. According to (EMIS, 2012) there are 137 schools. The literacy rates for persons older than 15 years of the Region is 96% compared with that of Namibia which is 91,53%.

6.4 Employment Opportunities

By the year 2011, sixty-one percent (61%) of the population older than 15 years, were employed and thirty-nine percent (39%) unemployed. The population outside the labour force comprised of students, homemakers and retired or old age persons.

6.5 Income

Subsistence farming (33%) and labour migration are considered the primary livelihood sources of many households. The majority of the employed population are employed in the formal sector making Wages and Salaries 30% the second main source of income in the region. Pensions 19%, Non-farming business 10%, Cash Remittance 5% is the means of survival for the rest of the population.

6.6 Health Profile

In Namibia, the HIV prevalence rate in pregnant women age group 15 to 49 is estimated at 21.3% (UNDP, 2005). While the HIV prevalence rate in the Oshana Region stands at 15.9%. Ninety-four percent of the population in the region have access to safe drinking water, while 15 % have poor or no access to toilet facilities.

6.7 Immigration

The proposed facility will attract some immigrants to the town of Ondangwa for employment and business opportunities. This might cause discomfort to the local community currently residing in the area as they might feel left out from the benefits of the development in their own town.

6.8 Acquisition

Jobs emanating from the construction and operation of the proposed facility will be outsourced to small medium enterprises in the area.

6.9 Tourism

Oshana region includes the Etosha National Park, which is one of the major tourist attractions in Namibia and Southern Africa. Ondangwa town also has the only functioning airport in north central Namibia. Therefore, many tourists and business people travel through the National Park when travelling to northern Kunene, and Angola. There are various cultural, historical and craft-based enterprises in the communities, conservancies and community forests/ community gardens. Furthermore, most tourists and business people travelling through northern Namibia and Angola etc. find a resting place in the upmarket lodges, hotels and motels located in the Ondangwa.

6.10 Amenities

A number of amenities are offered to the residents of the Oshana Region more especially in Ondangwa Urban Constituency. Ondangwa is historically the first town/settlement in northern Namibia, the Onandjokwe Lutheran Hospital which is one of the largest health care facilities in northern Namibia is in Oniipa town just adjacent to Ondangwa.

There are different types of schools from primary to tertiary, government office, hotels, banks, shops, malls and entertainment areas around the town.

7. PUBLIC PARTICIPATION PROCESS (PPP)

This section of the report provides details of Public Participation Process (PPP) undertaken in the compilation of the EIA final report. Therefore, in terms of Section 26(1)(h) of the Namibian Environmental Assessment Regulations (2012), it is a requirement to provide details of the public participation process conducted in accordance with Section 32 of the Environmental Assessment Regulations. Furthermore, the Public Participation forms an important component of this EIA.

It has been defined by the Ministry of Environment and Tourism that an Environmental Assessment Regulations (2012) of the Environmental Management Act (2007), as a process in which potential interested and affected parties such as neighbouring landowners, local authorities, environmental groups, village councils and communities, to comment on the potential environmental impacts associated with the proposed activity and are given an opportunity to comment on, or raise issues relevant to the proposed project and its benefits to the nation and to Namibia's economy. Besides these legal requirements, it was also endeavoured to consult the public and other relevant stakeholders to ensure that their voices are heard and taken into account during the decision-making process.

7.1 Aim for Public Participation Process (PPP)

The aims for the Public Participation Process are but not limited to:-

- Informing Interested and Affected Parties (I&APs) of the proposed project;
- Identifying issues, comments and concerns as raised by I&APs;
- Promoting transparency and an understanding of the project and its consequences;
- Serving as a structure for liaison and communication with I&APs; and
- Providing local knowledge and input in identifying potential environmental (biophysical and social) impacts and "hotspots" associated with the proposed development.

7.2 Compilation of stakeholder database

The first step in the Public Participation Process (PPP) is to identify key stakeholders. A stakeholder database was compiled and the target groups for this project were invited to the public meeting, these were and not limited to:

- Ondangwa Town Council;
- Namibia Service Maintenance;
- General public

7.3 Background Information Document

This document provides a short summary of the project and the EIA process. Therefore, a background information document (BID) was prepared and was ready to be distributed to

Interested & Affected Parties. However, no body requested for it and it was to be distributed to people at the meeting. However, people did not avail themselves to the meeting. See a copy of the BID in Appendix D

7.4 Notification of I&APs

The requirements for the notification of potentially interested and affected parties of this application are set out in detail in section 32(2)(b) of the EA regulation. These requirements have been addressed and include:-

- Forwarding letters to government authorities and other identified relevant stakeholders;
- Fixing a notice board at a place conspicuous to the public
- Placing advertisements twice in at least two local newspapers.

7.5 Advertisement

The advertisement of the public participation and public meeting for the proposed project were placed in the national newspaper, the New Era and the Confidante (dated: 22nd and 29th April 2021). Proof of advertisements are attached.

7.6 Notice Board

An A3 size notice board detailing information about the project and the EIA process was erected at a recognised public area on 22 April 2021.



Figure 4: Proof of Notification at the Site

7.7 Public Meeting

In compliance with the EIA Regulations (2012), public (I&AP) and all stakeholders were notified as a requirement for EIA process. Therefore, to incorporate the varying needs of stakeholders and I&APs, as well as to ensure the relevant interactions between stakeholders and the EIA specialist team; the public was notified that the public meeting will only take place if there is public interest in proposed closure. This was done because an Environmental Scoping Exercise has been carried out a month earlier for the construction of the proposed fuel retail facility on the same property and no public interest was observed. The public meeting was also not held to halt the spread of the deadly Covid-19 Virus.

7.8 Issues raised by interested and affected parties

No comments received on the project from interested and affected parties (stakeholders), although they were notified about the project.

8. ENVIRONMENTAL ASSESSMENT METHODOLOGY

An appraisal of the type of effect the proposed closure of a public open space would have on the affected environment; rate as either positive (beneficial on the environment), neutral (no impact on the environment), or negative (adverse impact on at a cost to the environment).

Severity

Rating	Description
1	Negligible / non-harmful / minimal deterioration (0 – 20%)
2	Minor / potentially harmful / measurable deterioration (20 – 40%)
3	Moderate / harmful / moderate deterioration (40 – 60%)
4	Significant / very harmful / substantial deterioration (60 – 80%)
5	Irreversible / permanent / death (80 – 100%)

Table 3: Assessment and Rating of Severity

Duration

Rating	Description
1	Less than 1 month / quickly reversible
2	Less than 1 year / quickly reversible
3	More than 1 year / reversible over time
4	More than 10 years/ reversible over time/ life of project or facility
5	Beyond life of project or facility/ permanent

Table 4: Assessment and Rating of Duration

Extent

Rating	Description
1	Within immediate area of the activity
2	Surrounding area within project boundary
3	Beyond project boundary
4	Regional/ Provincial
5	National/ International

Table 5: Assessment and Rating of Extent

Consequence is calculated as the average of the sum of the ratings of severity, duration and extent of the environmental impact.

Determination of Consequence (C)	$(\text{Severity} + \text{Duration} + \text{Extent}) / 3$
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Table 6: Determination of Consequence

Frequency

Rating	Description
1	Less than once a year
2	Once in a year
3	Quarterly
4	Weekly
5	Daily

Table 7: Assessment and Rating of Frequency

Probability

Rating	Description
1	Almost impossible
2	Unlikely
3	Probable
4	Highly likely
5	Definite

Table 8: Assessment and Rating of Probability

Likelihood

Likelihood considers the frequency of the activity together with the probability of the environmental impact associated with that activity occurring.

Determination of Likelihood (L) =	$(\text{Frequency} + \text{Probability}) / 2$
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Table 9: Determination of Likelihood

Environmental Significance

Environmental significance is the product of the consequence and likelihood values.

Rating	Description
L (1 - 4.9)	Low environmental significance
LM (5 - 9.9)	Low to medium environmental significance
M (10 - 14.99)	Medium environmental significance
MH (15 - 19.9)	Medium to high environmental significance
H (20 - 25)	High environmental significance. Likely to be a fatal flaw

Table 10: Determination of Environmental Significance

8.1 Impacts Associated with Construction Phase

Potential effects on the environment and their mitigation measures during construction are:

Air Quality Impacts These are expected to be site specific and surrounding area, short-termed and will most probably pose a negligible nuisance and health threat to those residing nearby. The construction of the proposed facility will have impact on the surrounding air quality as construction vehicle will be frequenting the site and surrounding.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	2	2	2	5	5	5	Negative	7(LM)
Mitigation measures: Dust may be generated during the construction/decommissioning phase and might be aggravated when strong winds occur therefore; dust suppression during the construction process is advised if dust becomes an issue. Vehicles travelling to and from the construction site must adhere to the speed limits so as to avoid producing excessive dust. A speed limit of 40 km/hr should be set for all vehicles travelling over exposed areas. Loads could be covered to avoid loss of material in transport, especially if material is transported off site.									
Mitigated	1	1	1	1	1	1	1	Negative	2 (L)

Noise caused by construction activities- Noise levels are expected to rise during the construction phase of the development. Construction activities that cause noise include vehicle trafficking, generator noise, pressure hammers and construction worker's voices, including earthmoving equipment which will be utilized during the construction phase.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	4	3	3.33	5	3	4	Negative	8.33 (LM)
Mitigation measures: Construction should be limited to normal working days and office hours from 08h00 to 17h00 and 7:30 – 13:00 on Saturdays. Provide ear plugs and ear muffs to staff undertaking the noisy activity or working within close proximity thereof or alternatively, all construction workers should be equipped with ear protection equipment. Noise pollution should be addressed and mitigated at an early stage of construction phase.									
Mitigated	1	1	1	1	1	1	1	Negative	2 (L)

Employment Creation (Positive Impact) this is a job creation and economic benefit to local community since the construction activities associates with the installation of services infrastructure which will require labourers from the surrounding.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	1	3	3	2.33	2	5	3.5	Positive	5.83 (LM)
Mitigated	1	2	5	2.66	3	5	4	Positive	6.66 (LM)

Health and Safety- Health and Safety Regulations pertaining to personal protective clothing, first aid kits being available on site, warning signs, etc. is very important and should be adhered to. During construction phase, there is a possibility of injuries to occur if no measures are taken into consideration.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	5	5	2	4	5	3	4	Negative	8 (LM)
<p>Mitigation measures: A health and safety plan is to be developed and implemented as soon as land clearing commences. During construction, earthmoving equipment will be used on site. This increases the possibility of injuries and the responsible contractor must ensure that all staff members are briefed about the potential risks of injuries on site. Ensure the appointment of a Safety Officer to continuously monitor the safety conditions during construction. The contractor is further advised to ensure that adequate emergency facilities are available on site.</p>									

The construction staff handling chemicals or hazardous materials must be trained in the use of the substances and the environmental, health and safety consequences of incidents. All construction staff must have the appropriate PPE.									
Mitigated	2	1	2	1.66	1	2	1.5	Negative	3.16 (L)

Traffic - Potential impact due to increase in traffic because the site is in the urban area or industrial area. Construction related activities are expected to have a minimal impact on the movement of traffic along the road. Accidents might occur if no qualified drivers employed to drive vehicles for the project.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	4	3	4	3.66	5	4	4.5	Positive	8.16 (LM)
Mitigation measures: No diversion of traffic or closure of the road is expected the site will be cordoned off. The responsible contractor must ensure that all drivers employed have valid driver's licenses of vehicle types they employed for, and that they have experience in driving those vehicles. The contractor must ensure that there is always a supervisor on site to ensure that no driver under the influence of alcohol or narcotics to be authorized to drive company's vehicles. The vehicle construction should limit speed to 40km/h and also be considerate of the surrounding land users.									
Mitigated	1	1	1	1	1	2	1.5	Positive	2.5 (L)

Waste Impacts- The construction phase of the development is likely to generate waste from builder's rubble, general construction refuse and minor hazardous waste including paint tins, cleaning acids, asphalt's and oils. The development could therefore impact on the environment by generating solid waste pollution.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	3	3	3	5	4	4.5	Negative	7.5 (LM)
Mitigation measures: Ensure that no excavated soil, refuse or building rubble generated on site are placed or dumped on surrounding properties or land. Contaminated wastes in the form of soil, litter, building rubble and other material must be disposed off at an appropriate disposal site. The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area. Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts;									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

Safety and Security- During the construction and decommissioning phase, earthmoving equipment will be used on site. This increases the possibility of injuries. Presence of equipment may encourage criminal activities (theft).

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	3	3	3	5	4	4.5	Negative	7.5 (LM)
Mitigation measures: The site must be fenced off to prevent unauthorized access during construction. All visitors must report to the site office. Ensure that the contact details of the police or security company and ambulance services are available on site. The contractor and developer should ensure that all the waste generated by the development is appropriately disposed of at the recommended waste disposal sites close to the area. Strictly, no burning of waste on the site or at the disposal site is allowed as it possess environmental and public health impacts;									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

8.2 Impacts Associated with Operational Phase

Increased employment opportunities-

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	3	5	3.33	3	3	3	Positive	6.33 (LM)
<p>Mitigation measures:</p> <p>It is recommended to put local people at forefront when hiring or recruiting people, therefore unskilled people from the local community should be employed and semi-skilled from the region so that unskilled workers can be trained by semi-skilled for them to learn and be able to compete with others in future.</p> <p>Jobs for the maintenance of infrastructure and services will be created following the completion of the development. These jobs might be made available to existing labour there creating long term employment.</p> <p>Equity, transparency, should be put into account when hiring and recruiting and that committees should also take part in the recruiting process for decision makings.</p>									
Mitigated	1	4	4	3	2	5	4	Positive	6.5 (LM)

Improved aesthetic look of the area- The development of this project at this site is essential to improve the visual and aesthetics view of the area. This potential impact of the infrastructure on the economic structure is positive impact.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	3	4	1	2.66	5	4	4.5	Positive	7.16 (LM)
<p>Mitigation measures:</p> <p>No mitigation required because it's a positive impact. However, the developer should create awareness among the staff working in the proposed offices about energy conservation, waste management, saving of water and other resources.</p> <p>It should provide accessibility to the services provided in the building.</p> <p>Parking areas will be provided with 1 parking bay per 25m².</p> <p>Ensure proper and regular maintenance of the area.</p> <p>No illegal dumping of waste should be allowed</p>									
Mitigated	1	4	2	2.33	5	5	5	Positive	7.33 (LM)

Water demand- Namibia is a water scarcity country, therefore, the additional development like this one will increase the water demand.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	5	5	5	5	5	5	5	Negative	10 (M)
Mitigation measures: This development will create employment to people from different backgrounds and with different perceptions on using water. Therefore, awareness should be created to inform people on the importance of saving water to reduce water consumption.									
Mitigated	1	2	1	1.33	1	2	1.5	Negative	2.83 (L)

Power usage- Namibia is experiencing power shortage; therefore, electricity should be used wisely in order to sustain the future generation.

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	2	5	5	4	5	3	4	Negative	8 (LM)
Mitigation measures: Power should be off in areas that are not in use/avoid unnecessary lights Avoid unnecessary printings Unplug unused electronics Ditch the desktop computers Encourage use of renewable energy i.e. Solar lights at parkings to supplement the electricity supply									
Mitigated	1	1	1	1	3	2	2.5	Negative	3.5 (L)

Waste management- Generation of domestic waste while sewage waste will be generated from toilets

	Severity	Duration	Extent	Consequence	Frequency	Probability	Likelihood	Status	Confidence/ Significance
Unmitigated	4	3	3	3.33	5	3	4	Negative	7.33 (LM)
<p>Mitigation measures: During the operations phase, the City of Windhoek waste management will manage the waste disposal from the site while the MET will ensure that waste are stored in correct waste storages. City of Windhoek to develop a formal waste collection strategy and that the waste is to be collected regularly by disposed of at authorized dumping site or disposal site. Ensure maintenance of sewage system Illegal dumping should be prohibited.</p>									
Mitigated	1	1	1	1	4	2	3	Negative	4 (L)

8.3 Impacts Associated with Decommissioning Phase

At this point, it is difficult to visualise and assess the decommissioning phase, although the procedures for decommissioning phase should be the same as for the construction phase however, there will be possible pollution the demolition of the project. However, Furthermore, during the decommissioning phase, an Environmental Impact Assessment (EIA) will be required and the disposal of decommissioned equipment and hazardous contaminated materials should be disposed following the disposal of hazardous material legislation.

9. CONCLUSION

Onamulunga Service Station Trading proposes to close Erf 6260, Ondangwa Extension 22 as a public open space and subsequently rezone it to business purposes for the construction of a fuel retail facility. Nghivelwa Planning Consultant has been appointed to conduct an Environmental Impact Assessment and Environmental Management Plan (EMP) for the proposed project.

The potential environmental issues associated with the proposed activities have been identified and assessed. Therefore, they are considered sufficient and no additional specialist study is required. Furthermore, a number of potential impacts were assessed and mitigation measures are provided. The area is generally suitable for the proposed development and there were no objections or critical issues have been raised by I&AP's. Hence, all environmental risks can be minimised and managed through implementing preventative measures and sound management systems. Therefore, the approval of this application would not compromise the integrity of the existing environmental management priorities for the area.

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