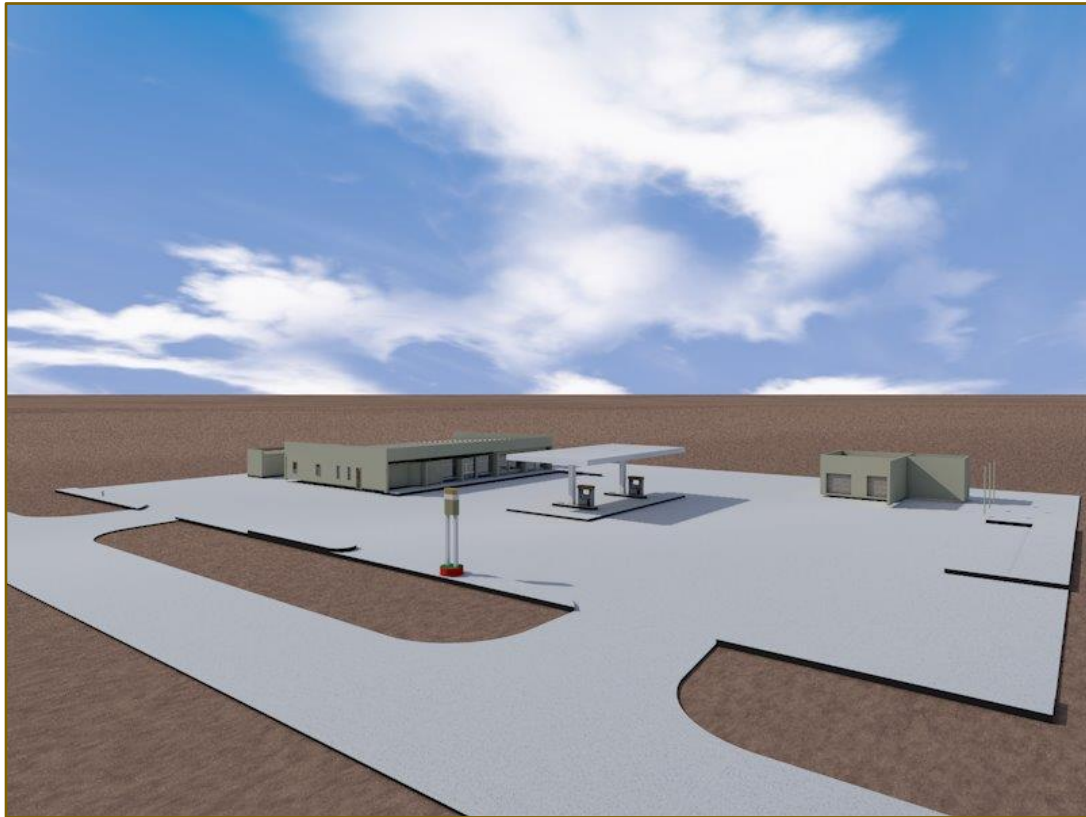


**ENVIRONMENTAL IMPACT ASSESSMENT (EIA) AND MANAGEMENT PLAN (EMP)
FOR THE
CONSTRUCTION OF //AIHA SERVICE STATION ON ERF 5,
WEST OF TSUMKWE SETTLEMENT, ALONGSIDE C44 MAIN ROAD,
OTJOZONDJUPA REGION**



CONSULTANT:

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March 2021

PROPONENT:

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Submitted to:

Ministry of Environment and Tourism
The Environmental Commissioners Office
Department of Environmental Affairs (DEA)
Private Bag 13306
Windhoek, Namibia

Distribution to:

Gaoxa Trading Cc
Tsumkwe Settlement Office
Otjozondjupa Regional Council
Ministry of Environment and Tourism
Ministry of Mines and Energy

Project Details	
Project Title	<p>The proposed development of //Aiha Service Station is planned to be on the land situated on GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S</p> <p>The envisioned project entails the construction of a standard service station with two dispensing pumps (petrol and diesel) with double walled underground storage tanks of 30 000 liters with four compartments. With an average shopping complex with various service offerings including: Butchery, Express market, tyre servicing center, toilets and coffee shop.</p>
Environmental Clearance	Environmental Clearance Certificate to be issued in the name of the Proponent (Gaoxa Trading Cc) and, a copy be sent to the Environmental Assessment Practitioner.
Report Status	Final Environmental Impact Assessment (EIA) & Management Plan (EMP) report
Proponent	Gaoxa Trading Cc P.O. Box 905 Grootfontein Cell: 0812346929 E-mail: MutjiPetrus@gmail.com
Environmental Assessment Practitioner (EAP)	Seanton Investment Cc Environmental Health and Safety Consultant Mobile: +264 85 7441144 E-mail: seanton.investmentcc@gmail.com
Date:	25 th March 2021
Approved by:	
Signature:	

TABLE OF CONTENTS

1. BACKGROUND AND INTRODUCTION	9
2. STATUTORY REQUIREMENTS	10
2.1 Legislation and Policies	10
2.2 Key Industry Standard Requirements	14
2.3 Methodology and EIA Process	15
2.4 EIA Practitioner's details	17
3. PROJECT OVERVIEW	18
3.1 Site Location	18
3.2 Project Details	22
3.3 Phases of the Project	23
3.3.1 Planning and Design Phase	23
3.3.2 Construction phase	23
3.3.3 Operational phase	23
3.3.4 Decommissioning phase	23
4. Need and Desirability	24
4.1 Settlement information	24
4.2 Economic Activities	24
4.3 Employment Creation and job opportunities	24
4.4. Procurement	25
4.5. Tourism impact	25
4.6. In-migration	25
4.7. HIV/AIDS and Prostitution	25
4.8. Infrastructure and increased traffic	26
5. Public participation and stakeholder consultation	26
5.1 Purpose of public participation	26
5.2 Key stakeholders Identification	27
5.3 Initiation of Environmental Scoping	27
5.4 Public Consultation	27
5.4.1 Issues and concerns raised:	28
5.4.2 Review of draft Environmental Scoping and Management Plan Report	28
5.4.3 Public Participation and way forward	28
5.5 Identification of Alternatives	29
5.5.1 Alternative sites	29
5.5.2 No Go option	29
6. Environmental Characterization of the site	29
6.1 Project location	29
6.2. Project site activities	29
6.3 project site and surrounding land use	30
6.4 Geographical and biophysical information	32
6.4.1 Topography	32
6.4.2 Soil and Geography	32
6.4.3 Climate and meteorology	32
6.4.4 Hydrology (groundwater) and Geological stability of the site	35
6.4.5 Atmosphere and air quality	37
6.4.6 Vegetation	37
6.4.7 Wildlife and biodiversity	37
6.4.8 Utilities and aesthetics	37
6.4.9 Socio-economic Status	38
6.4.10 Heritage, Cultural and Archaeological Aspects	38

7. Impact Identification and Assessment	38
7.1 Construction Phase	39
7.2 Operational Phase	49
7.3 Detecting Loss of Product	58
7.4 Health, Safety, Environmental and Socio-Economic Impacts	58
7.5 Decommissioning Phase	60
7.6 Discussion	61
8. Environmental Management Plan	61
8.1 Planning and Design	62
8.1.1 HSES Impacts mitigation strategies	63
8.1.2 Strategies to optimize socio-economic benefits	63
8.2 Responsibilities	64
8.2.1 Employer's Representative (ER)	64
8.2.2 Environmental Control Officer (ECO)	64
8.2.3 Health, Safety and Environmental (HSE) Officer	64
8.3 Monitoring	65
8.3.1 Contractor	65
8.3.2 Environmental Specifications: Awareness, Training and Competence	65
8.4 The construction phase and mitigation details	66
8.5 Operations and Maintenance	75
8.6 Complete Closure/Decommissioning	76
9. Conclusion and recommendations	77
9.1 Conclusions	77
9.2 Recommendations	77
10. References	78
11. Annexures	78
Annexure 1: Background Information Document	80
Annexure 2: List of Interested and Affected Parties	91
Annexure 3: Public Participation and attendance register	92
Annexure 4: Comments and concerns	96
Annexure 5: Media Advertisement	101
Annexure 6: Project Details (layouts and maps)	102
Annexure 7: EIA Practitioner details and resume	105
Annexure 8: Land use authorisation letter	110
Annexure 9: Application form for clearance certificate	111

ABBREVIATIONS

ATM	: Automatic Teller Machine
EIA	: Environmental Impact Assessment
EAP	: Environmental Assessment Practitioner
EMP	: Environmental Management Plan
ESMP	: Environmental Scoping & Management Plan
ECC	: Environmental Clearance Certificate
ECO	: Environmental Control Officer
EO	: Environmental Officer
RA	: Roads Authority
NHC	: National Heritage Council
EMA	: Namibia Environmental Management Act (No. 7 of 2007)
MET	: Ministry of Environment and Tourism:
DEA	: Directorate of Environmental Affairs
MME	: Ministry of Mines and Energy
NEP	: National Energy Policy
IUCN	: International Union for Conservation of Nature
LNAPL	: Light Non-Aqueous Phase Liquids
MSDS	: Material Safety Data Sheet
PPE	: Personal Protective Equipment
PPM	: Parts Per Million
SANS	: South African National Standards
UNCCD	: United Nations Convention to Combat Desertification
WHO	: World Health Organization

GLOSSARY OF TERMS

Interested and Affected Party (I&AP) - any person, group of persons or organization interested in or affected by an activity; and any organ of state that may have jurisdiction over any aspect of the activity.

Proponent (Applicant) – means a person who intends or undertakes a project, policy, programme or plan.

Significant Impact - means an impact that by its magnitude, duration, intensity or probability of occurrence may have a notable effect on one or more aspects of the environment.

Environmental Clearance Certificate - This Certificate obtained from the Ministry of Environment and Tourism (Directorate of Environmental Affairs) approving the EIA study and providing clearance to the proponent to initiate work.

Environmental Assessment Practitioner - A person designated by a proponent to manage the assessment process.

Local Authority - Means a local authority council as defined in section 1 of the Local Authorities Act, 1992 (Act No. 23 of 1992).

Project area - Refers to the entire study area encompassing the total area as indicated on the study area map.

Project site - Refers to the geographical setting (piece of land) on which the proposed development is to be located.

Assessment - The process of collecting, organizing, analyzing, interpreting and communicating information relevant to decision making.

Alternatives - A possible course of action, in place of another, that would meet the same purpose and need but which would avoid or minimize negative impacts or enhance project benefits. These can include alternative locations/sites, routes, layouts, processes, designs, schedules and/or inputs. The “no-go” alternative constitutes the ‘without project’ option and provides a benchmark against which to evaluate changes; development should result in net benefit to society and should avoid undesirable negative impacts.

Cumulative Impacts - in relation to an activity, means the impact of an activity that may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area.

Evaluation – means the process of ascertaining the relative importance or significance of information, the light of people's values, preference, and judgements in order to make a decision.

Environment – Is the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life. As defined in the Environmental Policy and Environmental Management Bill of Namibia - *“land, water and air; all organic and inorganic matter and living organisms as well as*

biological diversity; the interacting natural systems that include components referred to in sub-paragraphs, the human environment insofar as it represents archaeological, aesthetic, cultural, historic, economic, paleontological or social values”.

Environmental Scoping Assessment (ESA) – process of assessment of the effects of a development on the environment.

Environmental Management Plan (EMP) - A legally binding working document, which stipulates environmental and socio-economic mitigation measures that must be implemented by several responsible parties throughout the duration of the proposed project.

Fuel retail facility / Service Station - is defined as any land, building or equipment used for the sale or dispensing of petrol or oils for motor vehicles or incidental thereto and includes the whole of the land, building or equipment whether or not the use as a petrol station is the predominant use or is only a part thereof.

Hazard - Anything that has the potential to cause damage to life, property and/or the environment. The hazard of a particular material or installation is constant; that is, it would present the same hazard wherever it was present.

EXECUTIVE SUMMARY

The proponent, Gaoxa Trading Cc is a wholly owned Namibian company which plans to develop a service station (the project) at Tsumkwe Settlement in the Otjozondjupa Region. The construction of a service station is a listed activity in the Environmental Management Act of 2007 making it mandatory to conduct an Environmental Impact Assessment (EIA) and accordingly apply for an Environmental Clearance Certificate before implementing the project. Mr. Julius Antonius, is the designated Environmental Assessment Practitioner (EAP) from Seanton Investment Cc contracted to conduct the EIA process for Gaoxa Trading Cc.

The project EIA presents an assessment of the potential environmental, occupational health and safety, social and community impacts, as well as risk mitigation measures and design enhancement for the project. For this project, the EIA includes a scoping phase, during which interested and affected parties are given the opportunity to comment on the project, and the reporting phase, wherein the draft environmental scoping and management report is shared with stakeholders for their inputs.

The findings of the EIA reveal that the development of a service station poses no environmental risk. It further shows that the proposed activities pose limited occupational health and safety, social and traffic impacts risks; but in fact, have residual positive impacts on the community which of note include the creation of employment. The development will bring much needed services closer to the local and surrounding communities of Tsumkwe Settlement.

Any potential environmental risks will be managed through the successful implementation of the proposed Environmental Management Plan (EMP).

1. BACKGROUND AND INTRODUCTION

//Aiha Service Station will be owned and operated by Gaoxa Trading cc. Gaoxa Trading is 100 percent Namibian; owned by previously disadvantaged Namibians and thus BEE compliant. //Aiha service station will be branded from either of the local oil franchises in Namibia when an agreement is entered into and finalized. The service station will have two islands and dispensing pumps, and 30 000 liters underground tank of petrol and diesel. Financing option for the service station is still under consideration, of which will cover the entire project in full. Additional services at the service station include a 24-hour convenient store (part of express market), a butchery, Automatic Teller Machines (ATMs) and oil changing facilities, tyre repair and servicing, which are all supported by 24-hour security system. The land has been approved by the Tsumkwe Settlement office through the Otjozondjupa Regional Council.

The construction, operations and decommissioning activities of the project (i.e. energy generation and distribution activities) requires compliance with the Environmental Impact Assessment (EIA) Regulations of 6 February 2012 (EIA Regulations) as promulgated in the Government Notice No 28, 29 and 30, circulated in terms of the Environmental Management Act (EMA), Act no. 7 of 2007.

The EIA regulations (under section 3), requires the proponent to “designate an environmental assessment practitioner to manage the assessment process.” In line with this requirement, Mr. Julius Antonius from Seanton Investment Cc was appointed as an independent environmental consultant (Environmental Assessment Practitioner: EAP), to undertake the EIA required for the construction and operation of the proposed facility.

In terms of the EIA regulations, the proposed project requires an EMA EIA Scoping Process in terms of the EIA Regulations (GN no. R4878) as follow:

- **Section 9.1:** The manufacturing, storage, handling, or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.
- **Section 9.4:** The storage and handling of dangerous goods, including petrol, diesel, liquid petroleum gas or paraffin, in containers with a combined capacity of more than 30 cubic meters at any one location.
- **Section 9.5:** Construction of service stations or any other facility for the underground and aboveground storage of dangerous goods, including petrol, diesel, liquid, petroleum, gas, or paraffin.

In line with the above, Environmental baseline information (EBI) must be carried out and prepared as part of an Environmental Impact Assessment (EIA) study of the site. Subsequently, the competent authority is required to undertake an assessment of this EIA and issue an Environmental Clearance Certificate if they are satisfied that all aspects and hazards are addressed, and adequate mitigation controls have been proposed.

On this backdrop, the objective of this report is to:

- Provide a project overview, a background on the operational guidelines, existing laws and regulations involved in operating the service station.
- Provide a baseline study of the original status of the environment on the project site before the development of the project. This included bio-physical environment and socio-economic conditions.
- Provide an analysis of the potential environmental impacts. This includes impact prediction and significance assessment.
- Present the preparation of an environmental management plan for the project.
- Finally, present the compiled EIA report.

2. STATUTORY REQUIREMENTS

2.1 Legislation and Policies

The EIA process is undertaken in terms of Namibia's Environmental Management act no. 7 of 2007 and the Environmental Assessment Policy of 1995, which stipulates activities that may have significant impacts on the environment. Listed activities require the authorisation from the Ministry of Environment and Tourism (DEA). Section 32 of the Environmental Management Act requires that an application for an environmental clearance certificate be made for the listed activities. Furthermore, strong sustainable development is ensured by the review of policies and legislation which is employed as sound guiding tools for the entire EIA process. Table 1 below provides a review of the relevant Namibian legislation that has a bearing on the project development. The review is laid out to provide the requirements and expectations before and during the construction, operational and decommissioning phases of the project.

The following environmental legislation is relevant to this project:

I. The Namibian Constitution

The Namibian Constitution has a section on principles of state policy. These principles cannot be enforced by the courts in the same way as other sections of the Constitution. But they are intended to guide the Government in making laws which can be enforced.

The Constitution clearly indicates that the state shall actively promote and maintain the welfare of the people by adopting policies aimed at management of ecosystems, essential ecological processes and biological diversity of Namibia for the benefit of all Namibians, both present and future.

II. Environmental Management Act No.7 of 2007

This Act provides a list of projects requiring an environmental assessment. It aims to promote sustainable management of the environment and the use of natural resources and to provide for a process of assessment and control of activities which may have significant effects on the environment; and to provide for incidental matters.

The Act defines the term "environment" as an interconnected system of natural and human-made elements such as land, water, and air; all living organisms and matter arising from nature, cultural, historical, artistic, economic and social heritage and values.

The Environmental Management Act has three main purposes:

(a) to make sure that people consider the impact of activities on the environment carefully and in good time

(b) to make sure that all interested or affected people have a chance to participate in environmental assessments

(c) to make sure that the findings of environmental assessments are considered before any decisions are made about activities which might affect the environment.

Line Ministry: Ministry of Environment and Tourism III. The Water Act (Act No 54 of 1956)

The Water Act No. 54 of 1956 as amended, aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users.

The Act broadly controls the use and conservation of water for domestic, agricultural, urban and industrial purposes; to control, in certain respects, the use of sea water; to control certain activities on or in water in certain areas; and to control activities which may alter the natural occurrence of certain types of atmospheric precipitation.

IV. Water Resources Management Act of Namibia (2004)

This act repealed the existing South African Water Act No.54 of 1956 which was used by Namibia. This Act ensures that Namibia's water resources are managed, developed, protected, conserved and used in ways which are consistent with fundamental principles depicted in section 3 of this Act. Part IX regulates the control and protection of groundwater resources. Part XI, titled Water Pollution Control, regulates discharge of effluent by permit. Line Ministry: Ministry of Agriculture, Water Affairs and Forestry V. Environmental Assessment Policy of Namibia (1995)

Environmental Assessments (EA's) seek to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process, and that the term ENVIRONMENT (in the context of IEM and EA's) is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.

Furthermore, the following legislations and or guidelines applies to this project:

Act/Regulation/Policy	Description	Applicability
Forestry Act (12 of 2001)	The Act makes provision for the protection of various plant species.	Harvesting required by Gaoxa Trading Cc from the Directorate of Forestry to clear protected vegetation species from the site.
The Public Health Act 36 of 1919 and subsequent amendments	This Act prohibits the existence of a nuisance i.e. noise and odors.	Gaoxa trading will be familiar with provisions of this Act and control nuisances accordingly.
Hazardous Substances Ordinance (14 of 1974) as amended by the Atomic Energy Radiation Protection Act (2005)	The ordinance controls substances with potential to cause injury ill-health or death of human beings because of their toxic, corrosive, irritant, strong sensitizing or flammable nature. There are many products and substances that are covered under this Act including Petroleum fuels and lubricants.	Care will be taken throughout the product Lifecycle: from receiving, storage, product use and disposal. In cases where special storage facilities are required Gaoxa Trading Cc will provide such.
Atmospheric Pollution Prevention Ordinance (Ordinance 11 of 1976)	This ordinance provides for the prevention of air pollution.	Measures are required to ensure that dust emanating from construction activities is kept at an acceptable level by the contractor.
Soil Conservation Act (No. 76 of 1969)	The act provides for the prevention and combating of soil erosion, conservation, improvement and manner of use of soil and vegetation and protection of water resources.	Seanton Investment Cc considered and adheres to guidelines provided in these regulations.
Draft Pollution Control and Waste Management Bill	This bill aims to prevent and regulate the discharge of pollutants to air, water, and land. It further aims to Promote the establishment of a system of waste management and enable Namibia to meet its international obligations.	Waste management to be guided by 3R principle: Reduce, Reuse and Recycle. Only unrecyclable and unusable materials must be disposed of at designated disposal site by the Tsumkwe Settlement Office.
Labour Act 11 of 2007, No. 156 Labour Act, 1992 and associate Regulations relating to the health and safety Of Employees at work	The Act governs employer to employee relationship including issues pertaining to occupational health and safety, remuneration, provision of appropriate PPE, welfare facilities, grant of leave and fair treatment whilst at work	To be complied by Gaoxa Trading Cc during the planning phase and implemented by the contractor during construction, operation, and the decommissioning.

Petroleum Products and Energy Act 13 of 1990 and subsequent amendments	The regulations serve to regulate the purchase, sale, supply, acquisition, usage, possession, disposal, storage, transportation, recovery, and refinement of used mineral oil are published under the Petroleum Products and Energy Act 13 of 1990	Environmental standards and avoidance of Environmental harm caused by the keeping, handling, conveying, using, and disposing of petroleum products must be done in line with these.
Road Traffic and Transport Act 22 of 1999; (as amended)	Obtain permission from Roads Authority to construct access route and to upgrade existing roads.	To be applied for from Roads Authority by the Contactor prior to commencement of Construction activities.
The Road Traffic and Transport Regulations, 2001	PART 4 of the regulations govern the transportation of dangerous goods.	The proponent must be Guided by the provisions during the transport of any dangerous goods.

Table 1: Applicable legislation, Policies and/or Guidelines

Apart from the requirements of the Environmental Assessment Policy, the following sustainability principles will be taken into consideration, particularly to achieve proper waste management and pollution control during all the phases of the project:

- **Cradle to Grave Responsibility**
This principle provides that those who manufacture potentially harmful products should be liable for their safe production, use and disposal and that those who initiate potentially polluting activities should be liable for their commissioning, operation, and decommissioning.
- **Precautionary Principle**
There are numerous versions of the precautionary principle. At its simplest it provides that if there is any doubt about the effects of a potentially polluting activity, a cautious approach should be adopted.
- **The Polluter Pays Principle**
A person who generates waste or causes pollution should, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.
- **Public Participation and Access to Information**
In the context of environmental management, citizens should have access to information and the right to participate in decisions making.

The proposed construction and development of //Aiha fuel retail facility at Tsumkwe, only applies to Parts 2, 7 and 8 of draft Pollution Control and Waste Management Bill.

Part 2 stipulates that no person shall discharge or cause to discharge any pollutant into the air from a process except under and in accordance with the provisions of an air pollution license issued under section 23. It further provides for procedures to be followed in license application, fees to be paid and required terms of conditions for air pollution licenses.

Part 7 states that any person who sells, stores, transports, or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances.

Part 8 calls for emergency preparedness by the person handling hazardous substances, through emergency response plans.

2.2 Key Industry Standard Requirements

The EIA process was also guided by the environmental best practices, engineering design controls and standards as Table 2 provides. These are required by Oil Companies and the Ministry of Mines and Energy (MME) to mitigate the risk that service stations pose.

Industry Standard	Brief Description
SANS 100131 (1977)	The storage and Handling of Liquid Fuel. Part 1: Small Consumer Installations.
SANS 100131 (1979)	The storage and Handling of Liquid Fuel. Part 11: Larger Consumer Installations.
SANS 10400 (1990)	The application of the National Building Regulations.
SANS 10089-1 (1999)	The petroleum industry Part 1: Storage and distribution of petroleum products in above-ground bulk installations.
SABS 0131 (1999)	The petroleum industry Part 3: The installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework at service stations and consumer installations.
SANS 10089-2 (2002)	The petroleum industry Part 2: Electrical installations in the distribution and marketing sector.
SANS 1186-1 (2003)	Symbolic safety signs Part 1: Standard Signs and General Requirements.
SANS 10142-1 (2003)	The wiring of the premises Part 1: Low-voltage installations.
SANS 1535 (2003)	Glass-reinforced polyester-coated steel tanks for the underground storage of hydrocarbons and oxygenated solvents and intended for burial horizontally.
SANS 10131 2004	Above-ground storage tanks for petroleum products.
SANS 10089-3 (2010)	The petroleum industry Part 3: The installation, modification, and decommissioning of underground storage tanks, pumps/dispensers and pipework at service. stations and consumer installations.
SANS 1020 (2013):	Power-operated dispensing devices for flammable liquid fuels.

Table 2: Key applicable International standards

2.3 Methodology and EIA Process

The EIA was conducted in chronological steps as summarized below. The methods employed were as follow: baseline information about the site and its surroundings was first obtained from existing secondary information as well as from a reconnaissance site visit. Subsequently, as part of the scoping process to determine potential environmental impacts, interested and affected parties (I&APs) were consulted for comments and opinions and these are put forward in this report. This process allowed assessment of the environmental impacts and subsequently the identification of the mitigation measures. These Mitigation measures were developed based on practical measures supported by research and scientific evidence. In addition to this, an environmental management plan (EMP) was prepared to give a guideline base to the project proponent on how the identified impacts can be mitigated and managed.

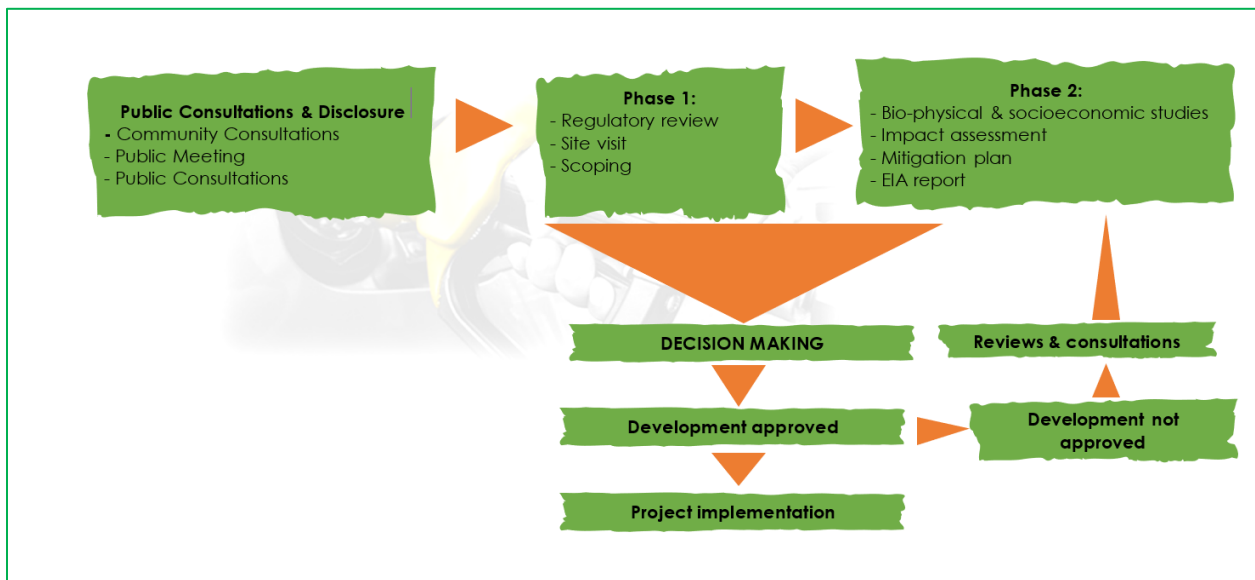


Figure 1: EIA Process flow

Phase	Description
1. Clarifying terms of reference and leveling	Leveling of expectations – an opening meeting was held between the consultancy team and Gaoxa Trading Cc. The purpose of the meeting was to clarify the methodology, communication process between the Consultants and Gaoxa Trading Cc, time frame and expected outcomes of the EIA study.
2. Literature review	Various related documents were reviewed to gather information on the potential impacts, the alternatives, how to mitigate the impacts, decommissioning and rehabilitation plan. The literature included maps, publications, and reports on topography, climate, land use, and socio-economic setup of the Tsumkwe Settlement where the project site is located. The literature review helped in undertaking components and areas that would deserve attention during field assessment. The literature review which was mainly based on the desk study method.
3. Information from the internet	The application of the National Building Regulations.
4. Field work for making detailed studies	This included bio-physical environment and socio-economic conditions.
5. Analysis of potential environmental impacts	This included impact prediction and significance assessment. The three major environmental compartments which are land, air and water were chosen to be observed and discussed in detail. These compartments had been chosen because they are the main receiving environmental compartments that should be considered before implementing the project.
6. Public participation	The petroleum industry Part 2: Electrical installations in the distribution and marketing sector. A wide range of key stakeholders were invited to participate and express their views through various media communication. The consultations were done mainly to get a view of the affected parties as well as how they think the project should be carried out for minimum impacts on health, environment, and the well-being of the people. Issues which were highlighted by stakeholders were incorporated into the EIA process, the project design and the proponents have committed the same during project implementation
7. Field Surveys	Field surveys were carried out to verify some facts obtained from the literature review. A more informed assessment was however the main objective of the field studies. This was done to confirm the condition of the area in terms of climate, soils, land use, topography and socio-economic set up of the area. It also involved surveys to identify the different environmental components and their state to determine the most likely impacts.
8. Project EMP and EIA report	The completion of the various tasks assigned to the team members during the EIA study gave rise to separate individual reports. The reports were collated to come up with a complete environmental impact assessment report.

Table 3: The EIA process

2.4 EIA Practitioner's details

Julius Antonius

Occupational, Health, Safety, Environment (Grad SAIOSH)



Mr. Julius Antonius from was appointed by the proponent (Gaoxa Trading Cc) as the Environmental Assessment Practitioner (EAP) to conduct the EIA for the application of the ECC for the construction of a service station at Tsumkwe (//Aiha Service Station). Mr. Antonius is a private Environment, Health and Safety consultant from Seanton Investment Cc. He has diverse experience in the industry spanning more than 11 years.

He has extensive experience and knowledge as an environment, health, and safety professional with leadership roles ranging Roads Construction with Roads Authority, Medical health services with Namibia Institute of Pathology and Uranium mining operations of Rio Tinto, Dundee Minerals (Tsumeb) Copper smelting and processing of complex concentrate hazardous materials. He is familiar with all required industrial safety procedures in OHSE & Wellness. He is prepared to service and facilitate effective HSE coordination through the organization.

Mr. Antonius also has a history and a proven track record of accident & injury prevention, investigations and critical risk management integrated with Employee Wellness & Assistant Programs (EWP & EAP). A candidate who combines loyalty and dedication with strong attention to details and highly intellect in decision making, leadership and management.

His core areas of expertise include:

- Environmental Impact Assessment
- Health and Safety
- Strategic Environmental Assessment
- Environmental Investigations
- Research and Training
- Feasibility Studies
- Agronomy
- Monitoring and Evaluation
- Critical Risk Containment
- Incident prevention and fatality elimination

Mr. Antonius draws his expertise from diverse qualifications obtained from regional and international universities. Mr. Antonius declares that we have no interests in this project and is independent and will act as such during the EIA process as required by the EIA regulations.

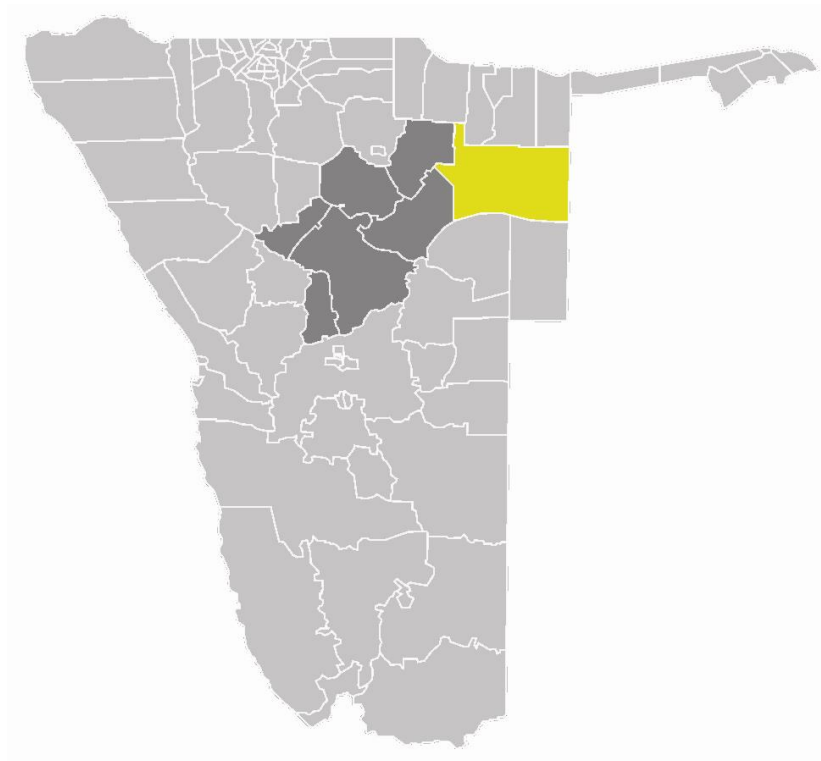
3. PROJECT OVERVIEW

//Aiha Service Station will be owned and operated by Gaoxa Trading cc. Gaoxa Trading is 100 percent Namibian; owned by previously disadvantaged Namibians and thus BEE compliant. //Aiha service station will be branded from either of the local oil franchises in Namibia when an agreement is entered into and finalized. The service station will have two islands and dispensing pumps, and 30 000 liters underground tank of petrol and diesel. Financing option for the service station is still under consideration, of which will cover the entire project in full. Additional services at the service station include a 24-hour convenient store (part of express market), A butchery, Automatic Teller Machines (ATMs) and oil changing facilities, tyre repair and servicing, which are all supported by 24-hour security system.

3.1 Site Location

The project is located on erf 5, alongside C44 main gravel road, West of Tsumkwe Settlement, in Otjozondjupa Region. The site measures 13 255 m² without improvements, and has the following GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S. The erf is owned by Mr. Mutji Petrus and Mr. Mutji Sondaha (brothers), who are also the sole owners of Gaoxa Trading cc, the proponents of the project. Figure 2 shows the site location in relation to the town of Tsumkwe and relation to potential competitors and target markets.

The site is located about 480 meters away from the central business units, when entering the settlement on the C44 gravel road, approaching the settlement center with main activities with low income areas of Tsumkwe, the site is located distance meters away from the main shopping center and fuel station (potential competitors).



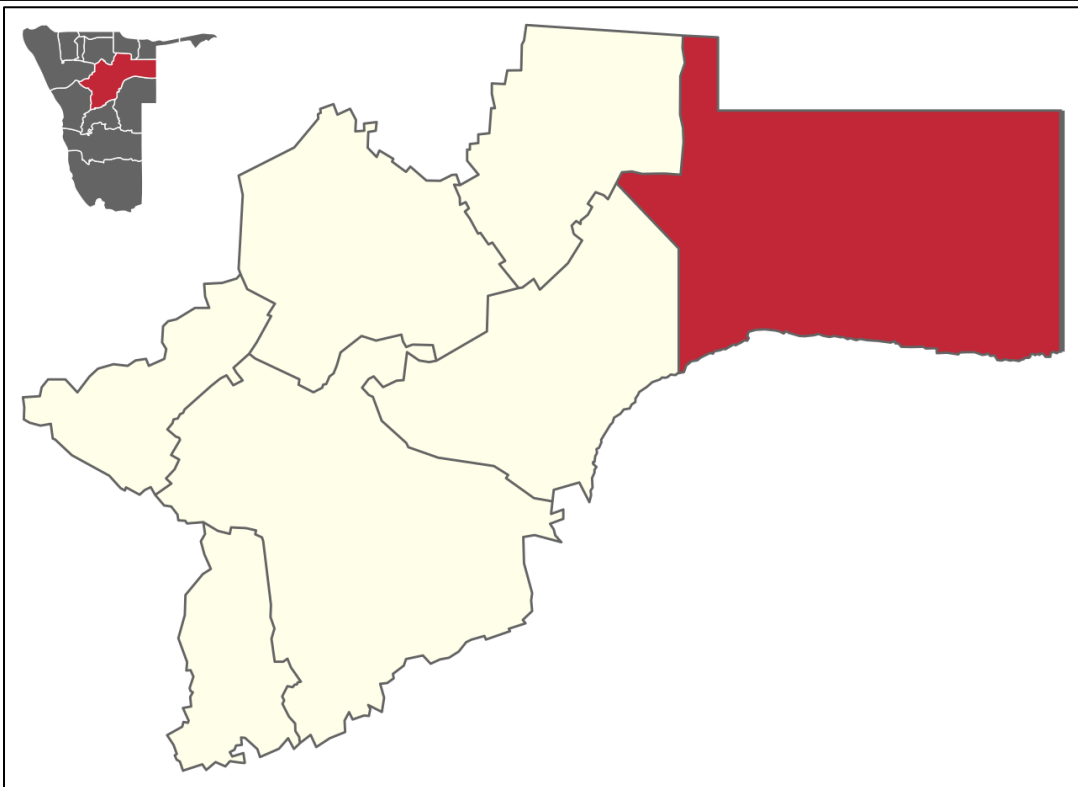
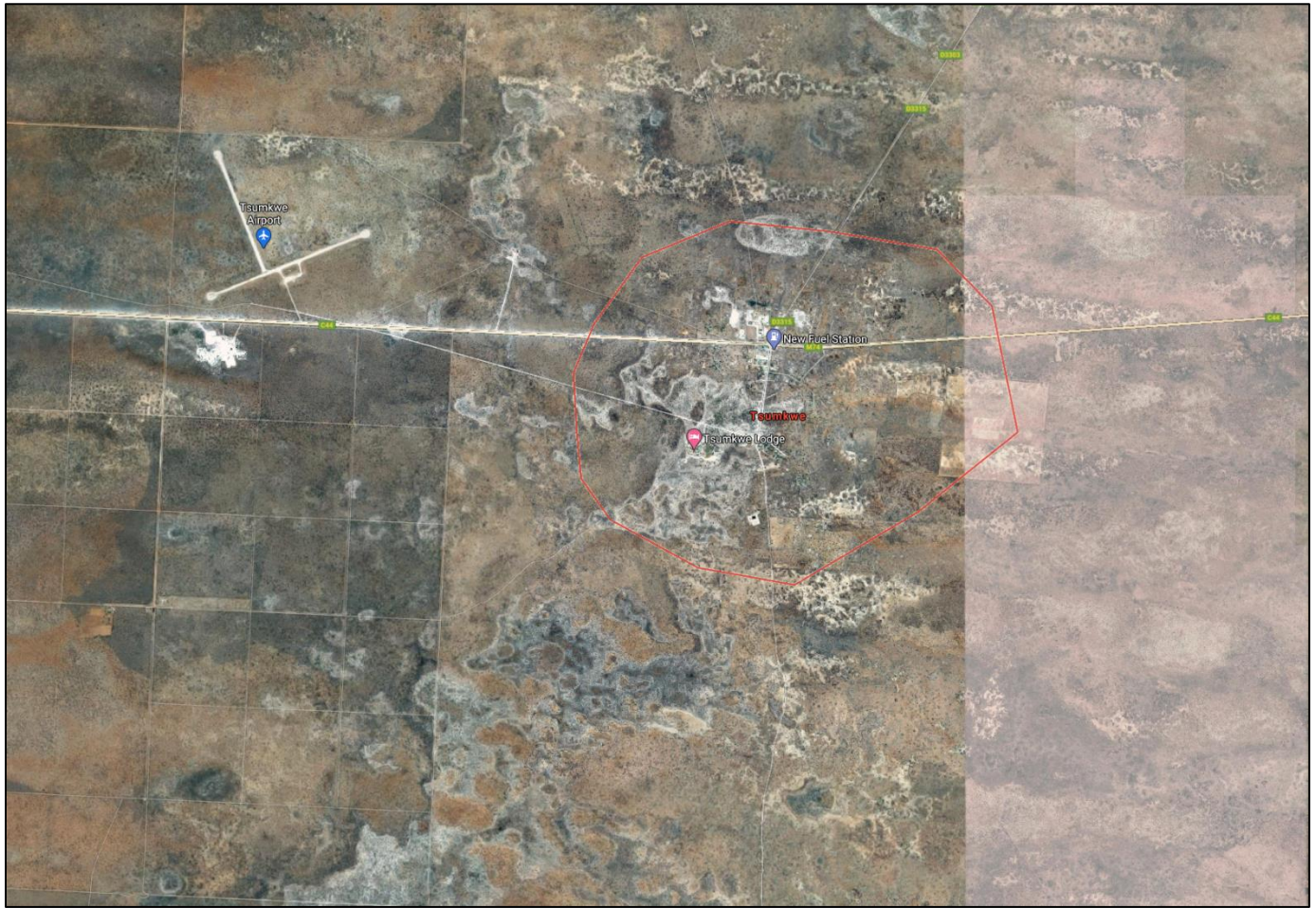


Figure 2: Tsumkwe Settlement map

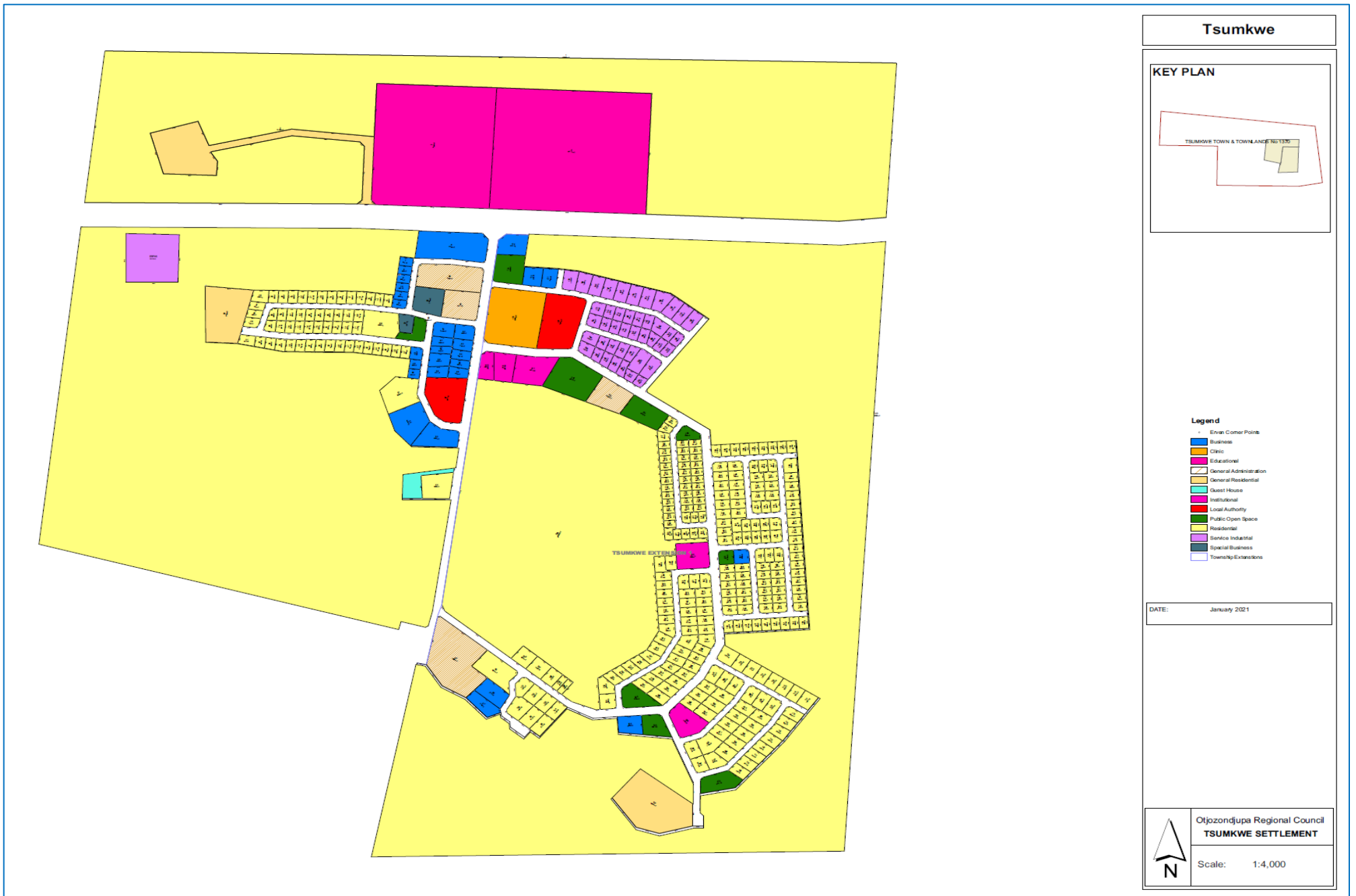


Figure 3: Site location within Tsumkwe Settlement

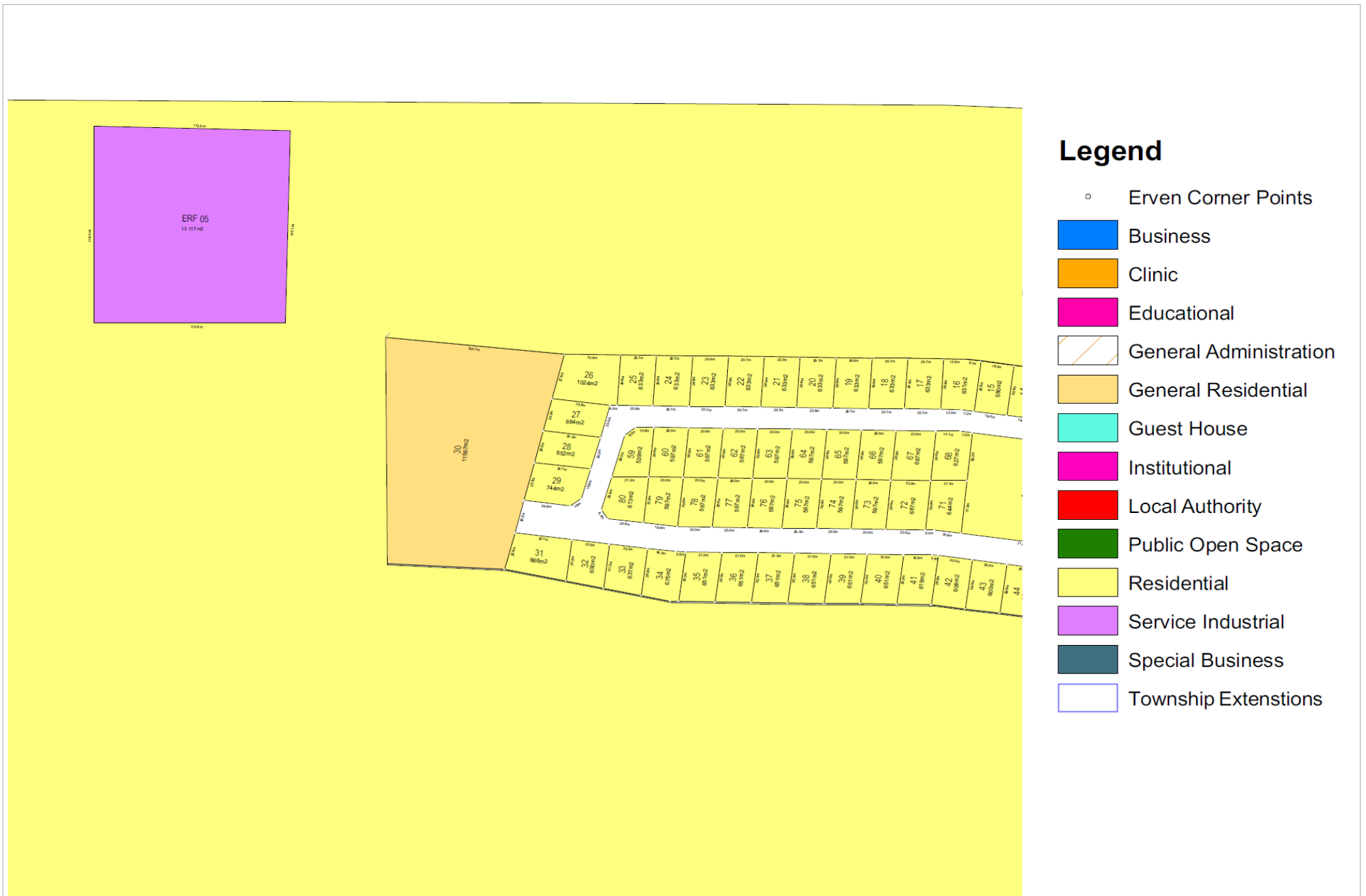


Figure 4: Project location within Tsumkwe Tsumkwe Settlement

3.2 Project Details

//Aiha Service Station is envisaged to be a standard service station, with two islands stations, two dispensing fuel pumps (petrol and diesel) from a storage of two double wall underground storage tanks of 30 000 liters. The service station will be part of a larger development, which is an average shopping complex with various service offerings including: a butchery, express market, tyre servicing center, toilets, and coffee shop.

The technical details of the site are as follow:

- ERF No: 5, Alongside C44 main road, West of Tsumkwe Settlement, Otjozondjupa Region, Namibia
- Site Area: 13 255 m²
- Site shape: Stretched Rectangle
- Site Configuration: West to East (Long axis)
- Topography: Generally flat
- Zoning type: Business
- Permissible Coverage: 60%
- Bulk factor: 1.0
- Maximum permissible Density: 1 shop/ 100m²
- Maximum Permissible height: 8 meters
- Parking Arrangement: 30 Light Duty Vehicles

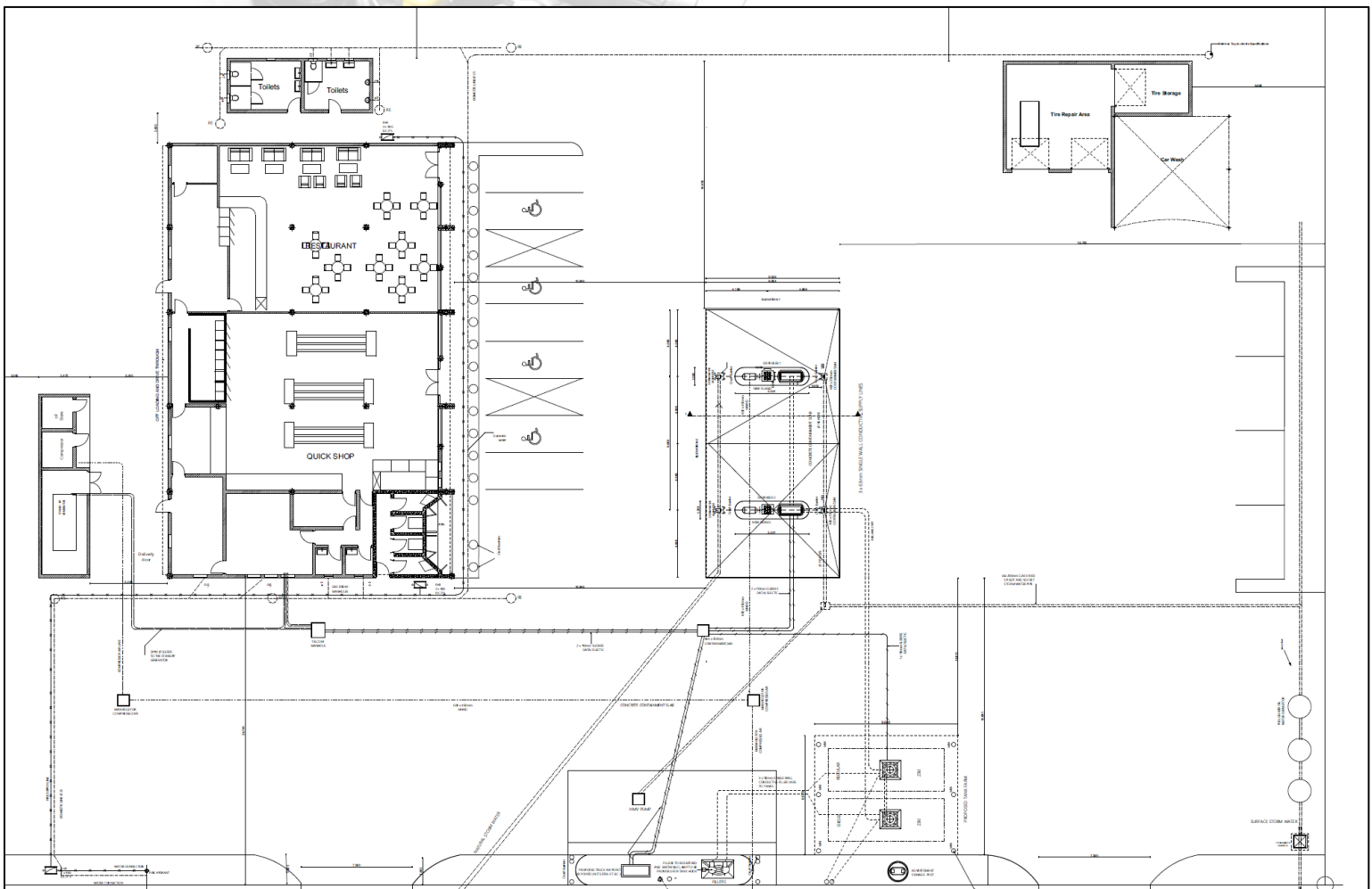


Figure 5: Concept Design for //Aiha Service Station

3.3 Phases of the Project

The EIA study specifically looked at the activities in the following phases (limited to the immediate environment on and around the location of the project site): Planning and Design, Construction, Operational, and Decommissioning phases of the project.

3.3.1 Planning and Design Phase

This phase entails the planning, designing, and documenting the project. It offers an ideal opportunity to consider and incorporate proactive environmental management measures with the goal of attaining sustainable development. While there is still the chance of accidental impacts taking place; however, through the incorporation of contingency plans (e.g. as proposed in the EMP) during the planning phase, the necessary corrective action can be taken to further limit potential impacts.

3.3.2 Construction phase

This phase entails the actual development of the project infrastructure. The activities during this includes:

- Excavation of trenches and pits for services and infrastructure.
- Installation of engineering services, underground storage tanks, oil separator, spill control infrastructure, submersibles, generator, and dispensing pumps.
- Electrical reticulation above and below ground.
- Construction of buildings, paving, pump islands, storm water drainage, site access streets and related infrastructure.
- Transportation of equipment, components, machines and building material to site.
- Site clean-up and housekeeping.

The bulk of the impacts during this phase will have immediate effects (e.g. noise, dust, and water pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts will be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management.

3.3.3 Operational phase

The operational phase entails the operation of the project for the intended purpose.

The activities during this phase include:

- Decanting fuel to the underground storage tanks from street tankers
- Fuel dispensing into vehicles and approved containers
- Tyre repair operations
- Operations of the kitchen and onsite shops
- Site clean-up and housekeeping

Like the construction phase, the bulk of impacts during this phase will be the additional traffic generated by vehicles have (e.g. noise, dust, and light pollution). If the site is monitored on a continual basis during the construction phase, it is possible to identify these impacts as they occur. These impacts can then be mitigated through the contingency plans identified in the planning phase, together with a commitment to sound environmental management.

3.3.4 Decommissioning phase

- Demolition and removal of physical structure not to be reused for further land use.
- Site rehabilitation and clean-up.

4. Need and Desirability

This section provides an overview of socio-economic characteristics of the study area. It provides regional and local information on the, economic activities, population dynamics, vulnerability, and social services currently available in the area.

4.1 Settlement information

Tsumkwe is situated about 60 km west of the Botswana border and 300 km east of Grootfontein in the Otjozondjupa Region. Tsumkwe is just a small town with about 500 inhabitants and it is administrative center for the Tsumkwe district in which 9,000 people live, of which about 2,400 are San.

The San, the original inhabitants of Namibia, also called Bushmen, have been living in Southern Africa for more than 20,000 years. The region belongs to the former Bushmanland, appointed homeland to the Bushmen by the former South African administration.

If an-route to Tsumkwe there are many small turns offs from the C44, which lead to Bushmen villages where one can meet the people and their fascinating culture. Tsumkwe can be reached with an ordinary sedan via Grootfontein to the west, and via Gobabis from the south. From the east there is a gravel road from Botswana; This border post is only accessible to Namibian and Tswana citizen. Tsumkwe is about 60 kilometers west of the border with Botswana and 200 kilometers east of Grootfontein and is considered, among other things, as the southern gateway to the Khaudum National Park.

4.2 Economic Activities

Since mid-2008 there is a commercial petrol station in Tsumkwe. It also houses an Afrox outlet for gas bottles can be filled, and a somewhat decent general dealer. However, perishable goods, even bread, eggs, or milk, are rarely available. Usually Grootfontein is the last outpost for such supplies.

There are several other sparsely stocked supermarkets at the settlement. One even function as a post office but their standard stock is maize meal, beer and soft drinks. There is also a secondary school and a health facility in the settlement. There is also a lodge that is managed by TUCSIN.

4.3 Employment Creation and job opportunities

Unemployment still hampers most of the developing world and Tsumkwe and the region is no exception. The proposed fuel retail facility is likely to increase the job opportunities in the region. The Construction phase of the project will provide job opportunities, of which 78% are expected to be unskilled and semi-skilled people and can be sourced from the unemployed labor force of the settlement and the surrounding areas.

The principle of maximizing local employment creation will be applied by identifying suitable construction contractors in each region of Otjozondjupa. The region is well-supplied with competent small and medium enterprise (SME) construction companies to conduct the proposed development. The project would also give rise to indirect economic benefits through the procurement of materials, goods, and local services.

The local economy of the settlement is expected to benefit from the project. A percentage of monies derived from salaries and wages earned by construction workers is likely to be spent at the settlement and surrounding areas. The moneys spent in communities around the project location would create substantial flows of revenue within these communities, thus acting as a catalyst for growth in the local economy.

In addition, procurement of construction materials, goods and services would have beneficial downstream economic impacts by stimulating demand up the supply chain. The more goods and services procured from local SMEs or enterprises at the settlement, the greater the project's contribution to the growth of the local economy.

It is therefore recommended that, where feasible, contractors would employ local labor by recruiting from local settlement of Tsumkwe and the region at large; that procurement of materials, goods and services from local suppliers be encouraged.

//Aiha Service Station will provide numerous economic and environmental benefits to residents of Tsumkwe Settlement as follow:

- Economic opportunities to a range of operators and entrepreneurs.
- Properly structured to provide communities with an opportunity to purchase good quality products and accessibility to primary services under one shelter.
- Adding value to the settlement by having a modern service station complex in the heart of the settlement.
- Enhance the attraction of local and foreign visitors and develop tourism in the settlement.
- Generation of additional income to the low-income area of Tsumkwe Settlement.
- Ultimately enhance the quality of the living status of people in the area.

4.4. Procurement

Local existing business are to benefit from the envisaged construction and operational activities of //Aiha Service Station. The project would source and require local services from the Tsumkwe settlement office i.e. waste management and local security services. Amenities such as water supply and electricity will also be considered from the local service provider.

4.5. Tourism impact

The major attraction in the area is the Khaudum National Park in the Kavango north of Tsumkwe. There are several large baobab trees in the vicinity and several nice spots for seeing animals and birds. During the wet season from January to April the area is beautiful and with luck you can see several endangered bird species. From August to October is the best for seeing animals. Elephants roam everywhere in the area; you will likely see some even on the access roads and in the village. Excessive waste, dust, noise, and vibrations can have negative impacts on the tourism industry in the area, as it can become a nuisance to tourists. Mitigation measures at the site will be put in place to reduce these impacts.

4.6. In-migration

Due to enhanced employment opportunities that could be created by the envisaged project, some in-migration of job seekers to Tsumkwe can be expected. Depending on the amount of in-migration, local community will or may start experiencing overcrowdings, overuse of infrastructure, local conflicts, increase of goods prices due to increased demand etc.

4.7. HIV/AIDS and Prostitution

Namibia has a high occurrence of HIV/AIDS, which has a strong and adverse socio-economic impact on livelihoods of people in the region. The HIV prevalence rate is estimated at 19.7% for Namibia (Poverty profile 2007).

The spending powers of contractors working for fuel retail project are likely to increase, and this might be a perfect opportunity for sex workers to explore. Migrant laborers from other regions and expatriates are normally vulnerable and may use the services rendered by the sex workers.

Construction camps (if any) often become a focal point for promiscuous sexual activities. Such activities, particularly when carried out without protection, can result in increases in sexually transmitted diseases (STDs) and especially AIDS among neighboring communities, construction workers and their partners.

Should the HIV prevalence increase, the following consequential issues could arise:

- Reduced workforce in the Otjozondjupa Region.
- Diversion of income expenditure to medical care.
- Increase in orphans and households headed by children.
- Increase in pregnancy related mortality.
- The current rate of patients per one doctor could increase.

Educating workers and surrounding communities on measures to prevent the spread of HIV/AIDs through awareness campaigns, provision of protection for worker would be enhanced and child labor will be prohibited.

4.8. Infrastructure and increased traffic

The traffic in the area is expected to increase slightly and it might contribute to heavy traffic during seasonal hours and days, and a higher number of motor vehicle accidents in the area will become prevalent. In particular, the C44 gravel road will be affected due to increased vehicular traffic and trucks accessing the site and the gateway to other parts of the country and neighboring Botswana.

5. Public participation and stakeholder consultation

Public consultation is an integral part of a comprehensive EIA and is done to ensure that issues are identified early during the process before major decisions are made. It is a requirement to carry out public consultations under the Namibia Environmental Assessment Policy of 1994 and to achieve principles of best practice during the EIA process.

Effective public involvement is an essential component of many decision-making structures, and effective community involvement is the only way in which the power given to communities can be used efficiently. The Public Participation Process is designed to provide enough and accessible information to interested and affected parties (I&AP's) in an objective manner.

5.1 Purpose of public participation

The primary aims of public participation were:

- To inform I&APs and key stakeholders about the proposed development, provide information to IAPs and other stakeholders about the project background, proposed site, project concept and predicted potential impacts.
- To identify issues and concerns of key stakeholders and I&APs with regards to the proposed development.
- Establish the public's interests, concerns, and expectations regarding the proposed project
- Obtain input from IAPs, the public and other key stakeholders.
- To provide information to enable informed decision making.
- To develop a communication structure with stakeholder and I&APs.
- To promote transparency of the project.
- To ensure that stakeholders comments are considered for the development.

Finally, assist the IAPs to:

- Verify that their issues have been captured.
- Verify that their issues have been considered by the technical investigations; and
- Comment on the findings of the Basic Assessment Report.

Decision-making authorities were consulted during the study and have been engaged throughout the project process. Consultation with the department of Environmental Affairs (MET) included the environmental assessment procedure and application procedure.

5.2 Key stakeholders Identification

The following key stakeholders were identified for consultation purposes:

- Ministry of Mines & Energy,
- Tsumkwe Settlement Office,
- Ministry of Environment, Tourism & Forestry,
- Tsumkwe community members,
- Government offices in proximity,
- Other members with interest or affected by the project.

5.3 Initiation of Environmental Scoping

The Background Information Document (BID) (attached Annexure 1) was promulgated to the enumerated stakeholders (see section 4.2). The BID contained the relevant information about the proposed project and promoted stakeholders and public participation in the scoping process. A comment sheet was attached at the end of the BID report inviting comments on issues of interest and importance to the stakeholders. Comments and concerns raised were captured and enclosed on (see Annex 4).

The scoping process was also initiated by publicizing it through the Confidante Newspaper (Confidante 23 May to 03 June 2020). The publication announced the beginning of the scoping process and invited stakeholders and members of the public to register as IAPs to participate in the EIA for the construction of the service station. IAPs were to register with the Environmental Consultant and to submit their concerns or inputs at seanton.investmentcc@gmail.com. Additionally, they were informed of a public participation meeting on the 20th March 2021 at the Tsumkwe Community Hall by posters placed on notice boards, the market walls and at the settlement office in both local languages and in English. The same information was passed to the Chief Control Administrative Officer of the Tsumkwe Settlement Office to mobilize the meeting amongst the villagers. No one officially registered as an I&AP and no comments were registered during this stage until the actual meeting held.

5.4 Public Consultation

Subsequent the promulgation of the BID to IAPs and advertisement placed in the newspaper, a public consultation meeting was held on the 20th March 2021 at the Tsumkwe Community call. Annexure 3 provides proof of this. The procedure followed in the public consultation was in line with the Environmental management Act (EMA No. 7 of 2007), the Environmental Impact Assessment Regulations of 2012 as follows:

- Community invites to participate were erected at prominent points in Tsumkwe.
- Even though no one had registered as an IAP, the following institutions and officials from different offices and organizations were identified as IAPs and thus added to the register of IAP.
 1. Agatha Mwetzi – Office of the Chief Regional Officer
 2. James U. Uerikua – Office of the Regional Governor
 3. Marlayn Mbakera – Chairperson of Management Committee, Otjozondjupa Regional Council
 4. Salome Tuahuku – Office of the Deputy Director, Administration.

The Public Consultation Meeting was attended by sixteen (16) I&AP's, all of which were community members of the Tsumkwe Settlement. All the I&APs who participated during the consultation from the

village were local businesspeople and ordinary community members youth, members of the teaching fraternity and the political party leaders.

5.4.1 Issues and concerns raised:

The I&APs responded positively and participated in the consultation exercise with enthusiasm. Only one major issue of importance was observed recurrently. The community wanted to know whether they will get preference for employment opportunities given the highlighted risks of the service station. The following comments were also registered; however, they were considered secondary

Concerns raised	Addresses to concerns
1. How many jobs will be created?	The service station will create about 16 permanent jobs, and these will be sourced from local surroundings. The service station will also onboard security services from locality of Tsumkwe.
2. Where can we apply for jobs?	Gaoxa Trading Cc will require the contractor to consider giving unskilled and semi-skilled residents of Tsumkwe and the surrounds and we will make this a tender contract requirement in order to give locals a chance of employment opportunities. When the project gets closer to completion, Gaoxa trading Cc will advertise for positions and they will take CV's onsite. Tsumkwe settlement office will also be considered to provide list of all unemployed community members with the required skills and qualifications.
3. Will there be a taxi rank at the service station?	//Aiha Service Station will have a permanent taxi rank and perhaps also consider a bus stop for long travel distances.
4. Will there be an ATM installed at the service?	//Aiha Service Station will install at least two Auto Teller Machines from two different banks, this consideration is included in the drawings for construction.
5. Please fast track the development we need it, when will the project start?	Date for construction and commencement will be announced publicly and the milestone for completion will be adhered to.
6. Consider having a market with fresh produce	The design and drawings of the service station will include a deli/shop for supply of fresh, dairy and bakery products.
7. When pricing the items, do not look only at the tourists that comes to Tsumkwe because they can afford, also consider the prices that can be afforded by locals.	Prices will be subject to the supplier pricings, market ratio and inflation percentage. Consideration will be made for cheap products that are locally manufactured, locally farmed and specials/sales will be released often for savings by locals to promote affordability.
8. Will local people be subcontracted?	All job creation opportunities and business opportunities will be announced locally, and privilege will be given to local Tsumkwe community members.

Table 4: Registered comments and concerns addressed during community participation

5.4.2 Review of draft Environmental Scoping and Management Plan Report

The draft report was compiled and shared with the Tsumkwe Settlement office on the 20th March 2021. The same was also posted at Tsumkwe Constituency Councilor Office Resource for public review and commenting for a minimum period of 1 week.

5.4.3 Public Participation and way forward

No comments on the reports were received and as a result the draft was adopted as the final report before submission to the Competent Authority: Ministry of Mines and Energy and the decision regarding the EIA report will be published.

5.5 Identification of Alternatives

This section covers a discussion of alternatives to the proposed construction of the service station. The "do nothing" alternative was also considered.

5.5.1 Alternative sites

There were no alternative sites considered in the borders of Tsumkwe Settlement. There was no other site identified for consideration. Hence, the only site adopted for this project is erf 5, with 13 255 m² without improvements, and has the following GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S.

5.5.2 No Go option

The "no-go" option means maintaining the status quo were no service station will be constructed. This would be the best for the environment given that it remains untouched. However, that situation is not favored as it means no development and lack of employment opportunities for the residents.

6. Environmental Characterization of the site

6.1 Project location

The project is located on erf 5, alongside C44 main road, West of Tsumkwe Settlement, in Otjozondjupa Region. The site measures 13 255 m² without improvements, and has the following GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S. The site is located about 480 meters away from the central business units, when entering the settlement on the C44 gravel road, approaching the settlement center with main activities with low income areas of Tsumkwe, the site is located distance meters away from the main shopping center and fuel station (potential competitor).

6.2. Project site activities

The site will be cleared and compacted to ready the site for construction. Subsequently, the following critical work will be done:

- Construction of access road works, paving and parking
- Excavation of trenches for underground services, oil separator, storage tanks, office and ancillary buildings foundations
- Excavation for and installation of 2 double walled underground storage tanks of 30 000 liters
- Installation of oil separator
- Generator installation
- Electrical kiosk construction
- Internal electrical reticulation
- Internal sewer reticulation
- Internal water reticulation
- Internal storm water reticulation and construction of drainages
- Construction of buildings
- Construction of steel canopy
- Installation of 2 double fueling islands
- Installation of 2 dispensing pumps (petrol and diesel) on the islands
- Installation of submersibles and valves
- Installation of air gauges and compressor
- Installation of air-conditioning, data communication systems and signage
- Installation of electrical fence
- Landscaping.

6.3 project site and surrounding land use

The project site location sits east of the C44 gravel road on the service industrial area, east of the residential area (see Figures 1, 2 and 3). This area of the settlement is a land reserved for industrial. The land use of the site was taken out of vast land that is not cleared yet and awaiting light industrial and development. The land used to belong to the Tsumkwe Settlement Office but reserved for business assigned to Gaoxa trading Cc.





Figure 6: East View



Figure 7: West View



Figure 8: North View



Figure 9: South View

6.4 Geographical and biophysical information

6.4.1 Topography

The area is situated on the vast Kalahari System (Geological Survey 1980; Thomas 1988; Mendelsohn et al. 2002; Mendelsohn & El Obeid 2003). This ancient basin has been gradually filled up with silt and clay sediments and windblown sands during the Tertiary to Quaternary Periods (32–39 Ma) (Geological Survey 1980). The windblown sands dominate the surface soils of the study area. Occasionally, exposed rock formations can be found, these are mainly sandstones, limestones, schists and dolomites of the much older Karoo and Damara Sequences.

6.4.2 Soil and Geography

Leser (1972) differentiates between coarse-grained yellow sands, which were found mostly on plains, and finer-grained reddish sands, present especially on the fossil dunes. Apart from the omuramba valleys, which often have exposed or underlying calcretes and limestone ridges, occasional pans formed by the limited runoff in the area have grey clays to grey sands. A more thorough study of the soils and landscapes is presented by Strohbach et al. (2004).

The sandy landscapes are generally flat to rolling (with 6° – 9° slopes); these plains are incised by omuramba valleys or alternated with vegetated fossil (no longer actively moving) dunes. An omuramba (plural: omiramba) can best be described as a shallow watercourse with no visible gradient (King 1963).

6.4.3 Climate and meteorology

During winter, mean daily temperatures range from 2.5 °C (minimum) to 22.2 °C (maximum) (with 8 frost days) in the southernmost parts of the Tsumkwe area and from about 4.3 °C (minimum) to 23.6 °C (maximum) (with 2 frost days) in the northern parts. During summer, mean daily temperatures range from 17.4 °C (minimum) to 31.8 °C (maximum) in the southern parts and from 17.9 °C (minimum) to 30.2 °C (maximum) in the northern parts. However, daytime temperatures can soar to just below 40.0 °C, especially during November and December (Mendelsohn & El Obeid 2002).

January, the same as December, in Tsumkwe, Namibia, is another hot summer month, with average temperature varying between 32°C and 19°C. In Tsumkwe, the average high-temperature is essentially the same as in December - a still hot 32°C.

April, like March, in Tsumkwe, Namibia, is a moderately hot autumn month, with temperature in the range of an average high of 29°C and an average low of 15°C. In April, the average high temperature is relatively the same as in March a warm 29°C.

August, the last month of the winter, in Tsumkwe, is another warm month, with average temperature fluctuating between 8°C and 28°C. In Tsumkwe, Namibia, the average high temperature in August marginally rises, from 25°C in July, to a still warm 28°C.

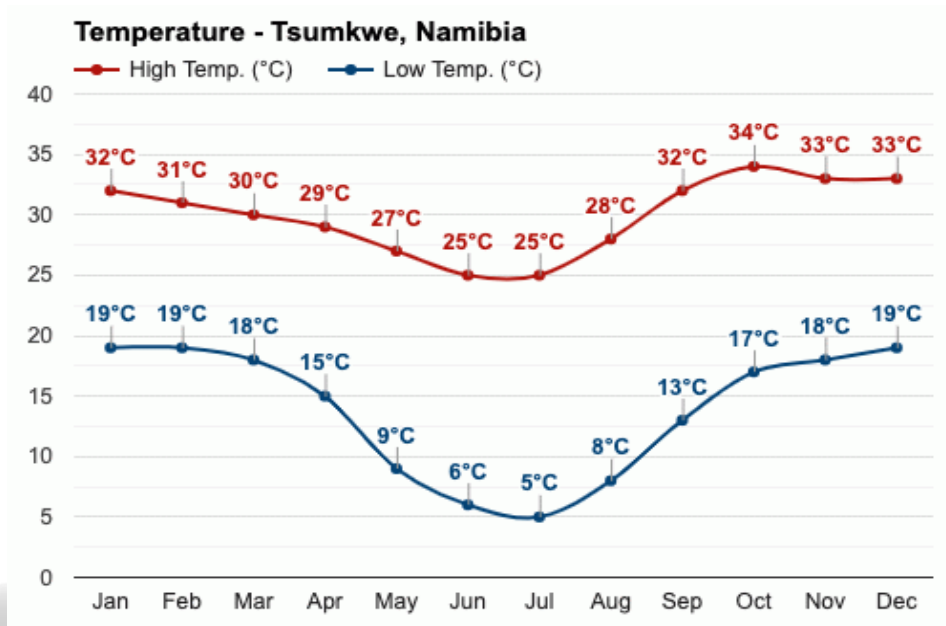


Figure 10: Tsumkwe Average monthly temperatures (<https://www.weather-atlas.com/en/namibia/tsumkwe-climate>)

The warmest month (with the highest average high temperature) is October (34°C). Months with the lowest average high temperature are June and July (25°C).

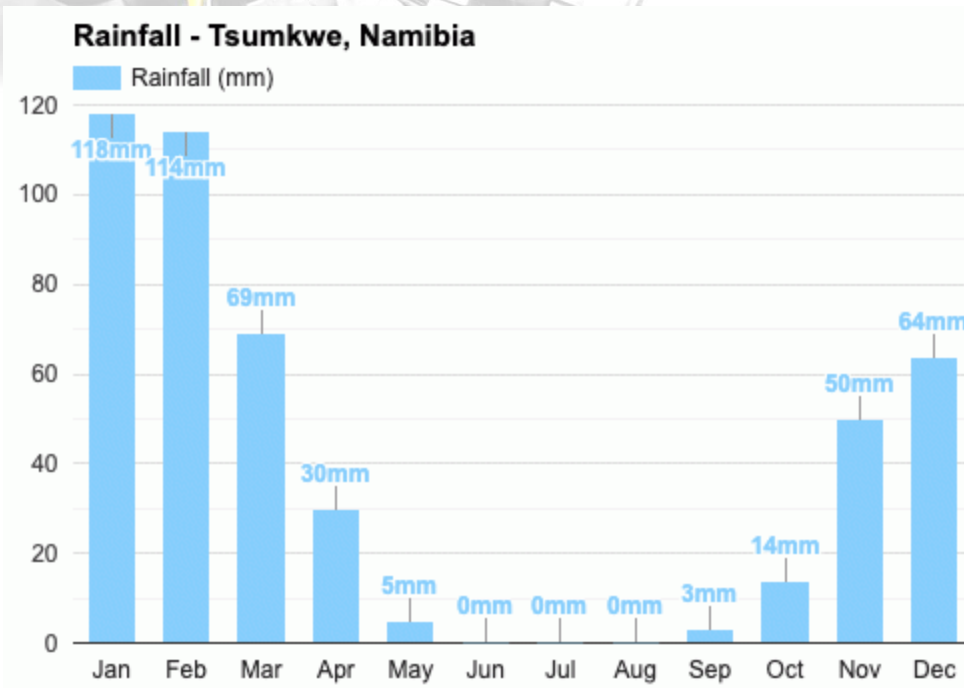


Figure 11: Tsumkwe Average monthly Rainfall (<https://www.weather-atlas.com/en/namibia/tsumkwe-climate>)

The wettest month (with the highest rainfall) is January (118mm). Driest months (with the lowest rainfall) are June, July and August (0mm).

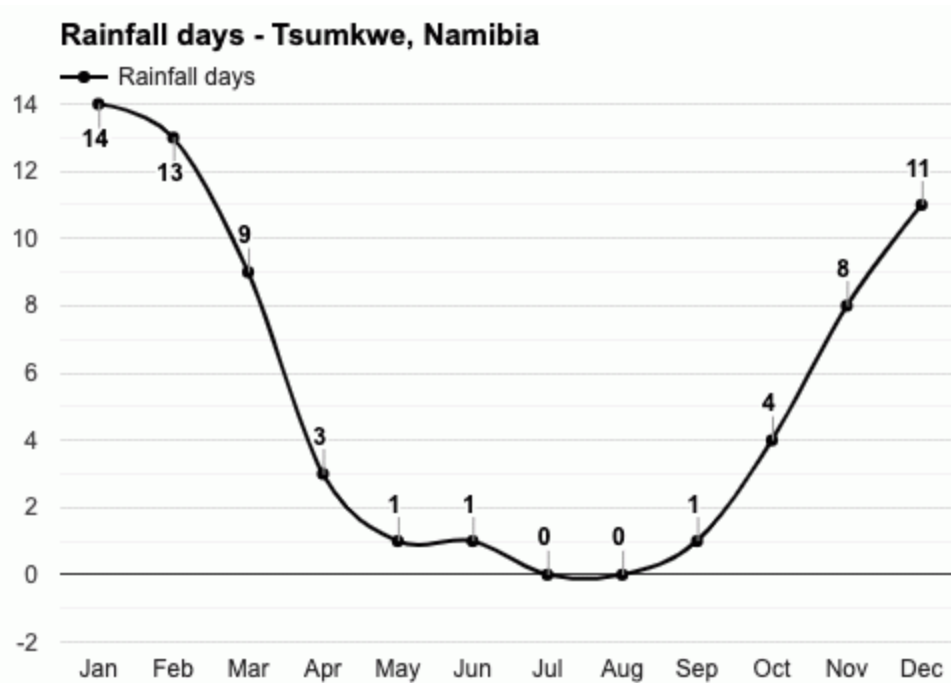


Figure 12: Tsumkwe Average daily rainfalls (<https://www.weather-atlas.com/en/namibia/tsumkwe-climate>)

The month with the highest number of rainy days is January (14 days). Months with the lowest number of rainy days are July and August (0 days).

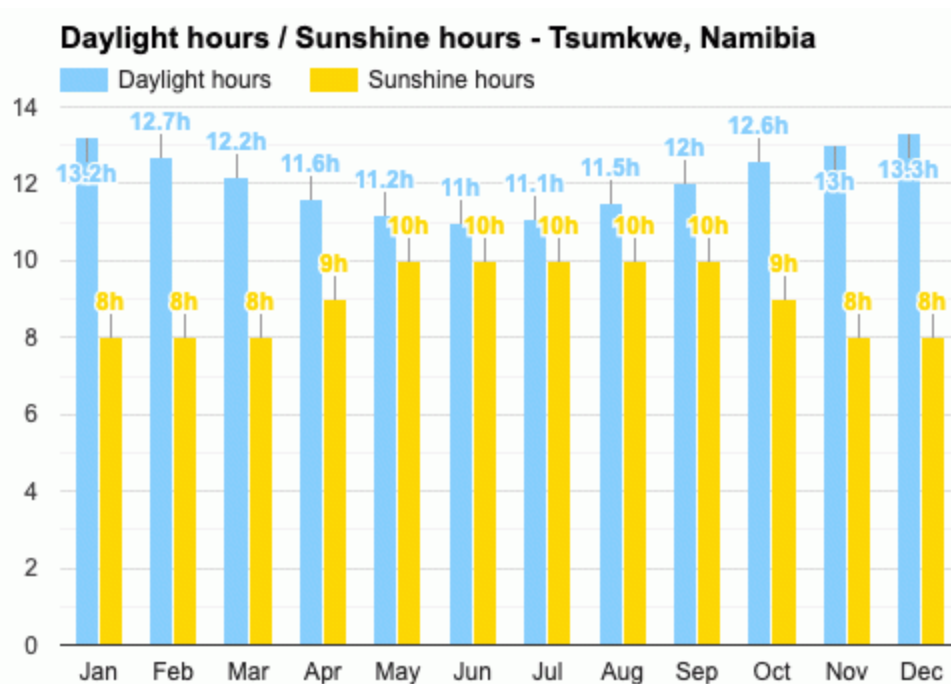


Figure 13: Tsumkwe daylight hours (<https://www.weather-atlas.com/en/namibia/tsumkwe-climate>)
 Months with most sunshine are May, June, July, August and September (Average sunshine: 10h).
 Months with least sunshine are January, February, March, November and December (Average sunshine: 8).

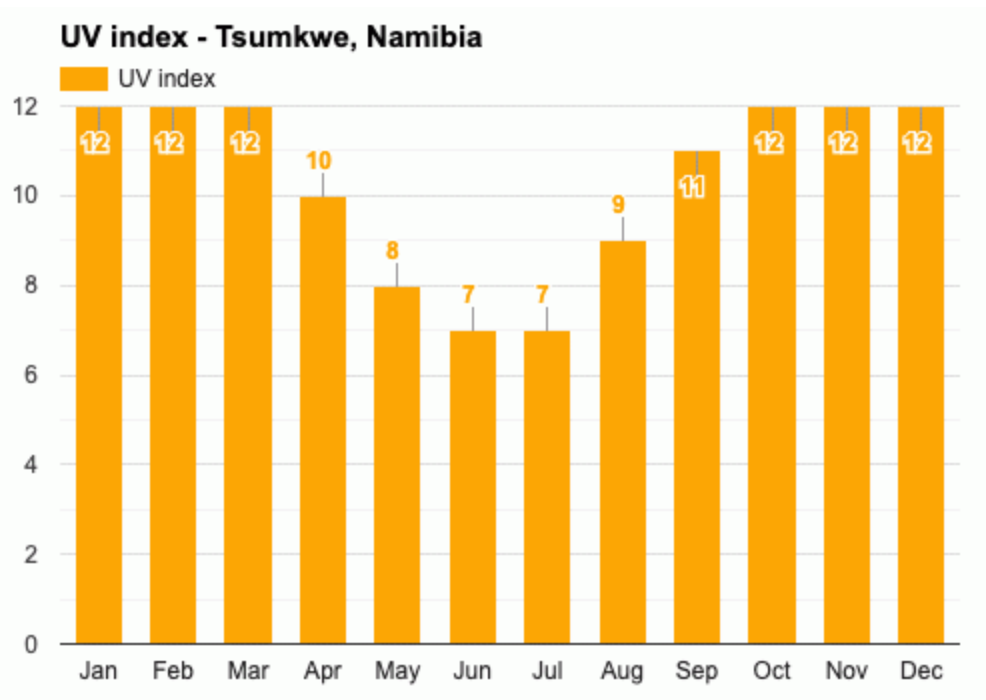


Figure 14: Tsumkwe UV index (<https://www.weather-atlas.com/en/namibia/tsumkwe-climate>)
 Months with the highest UV index are January, February, March, October, November and December (UV index 12). Months with the lowest UV index are June and July (UV index 7).

6.4.4 Hydrology (groundwater) and Geological stability of the site

The Tsumkwe area located on north-east of the Kalahari catchment consists of rocks of the Kalahari group, basically the basal Conglomerate and breccias. The Kalahari sand reaches a thickness of 10–40 m, with extensive horizons of calcrete and silcrete precipitates along (former) drainage lines and shallow pan depressions (De Vries et al. 2000). In the Tsumkwe district the basal Kalahari Group rocks comprise exclusively matrix rich, carbonate-cemented conglomeratic sandstones. With Tsumkwe Formation being a sub formation of the Kalahari group, it is described as conglomerates of poorly sorted clasts in a sandy matrix cemented by calcium carbonate. The clasts are irregularly scattered (Klock, 2002).

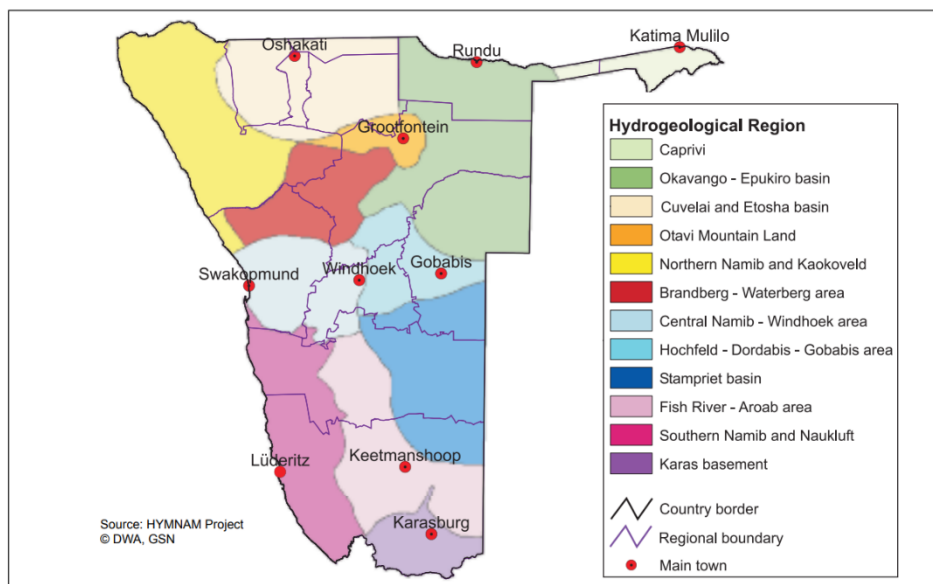


Figure 15: Groundwater basins and hydrogeological regions in Namibia

The Okavango-Epukiro groundwater region is located on a huge flat area in north-eastern Namibia encompassing the entire Kavango Region as well as the eastern parts of Otjozondjupa and northern Omaheke. Most of the area belongs to the Okavango drainage system, including the dormant, usually dry riverbeds draining east towards the central Kalahari. The area generally receives comparatively good rainfall and is covered by thorn bush savanna.

The Okavango-Epukiro Basin lies at the margin of the much larger Kalahari Basin, which extends far across the Namibian border. The bedrock that underlies this huge sand-filled basin consists of various rock types. Outcrops of carbonate and quartzite of the Damara Sequence are present in the area of Gam and Tsumkwe. The carbonate rocks, which are correlated with the dolomites in the Otavi-Tsumeb area form the Aha Hills 60 km north of Gam. Further south of Gam, drainage courses such as the Epukiro and the Eiseb omiramba have exposed the underlying bedrock composed of marble, mica schist, quartzite and amphibolite. Dolerite dyke and sill intrusions occur in the area, but outcrops are very scarce and can usually only be detected by geophysical methods. Some volcanic rocks are exposed in the Okavango River at Rundu and between Mukwe and Bagani, at Dobe Pan and in the upper reaches of the Otjosondjo Omuramba.

The Kalahari Sequence forms a blanket of unconsolidated to semi-consolidated sand covering most of the area. Specialists divide the Kalahari layers here into three main units. The uppermost consists mostly of unconsolidated windblown sand and sand deposited under fluvial conditions. The middle part is predominantly fluvial sand with minor aeolian deposits. The basal layer is yet poorly understood and consists of conglomeratic, red clayey sand with carbonate cement. The thickness of the Kalahari layers is lowest (less than 50 m) along the Botswanan border and increases towards the middle reaches of the Omatako Omuramba and further to the north-west.

Several prominent geological structures are found in north-eastern Namibia. The south-east trending Gam lineament is a major fault with a downward displacement of 200m on the southern side. The Eiseb graben extends between the Eiseb and Elandslaagte omiramba and contains 250m thick sand layers. Towards Otjiwarongo the northeast trending Waterberg thrust brought about an abnormal thickening of Kalahari sediments. Recent drilling in the Goblenz area penetrated more than 460 m of Kalahari deposits.

Groundwater within the area is hosted in two distinct aquifer systems, Kalahari aquifers and fractured bedrock aquifers. These two aquifer types are treated separately here as they have different characteristics. Kalahari aquifers hold water in intergranular pore spaces, whereas water in fractured aquifers is held in cracks and fractures in otherwise impermeable strata. Kalahari aquifers are common in the north eastern Otjozondjupa and Kavango regions. In northern Omaheke, the Kalahari is generally non saturated, but groundwater may be present in fractures in the underlying bedrock. Adjacent to the Botswana border, from Gam in the south to the Kaudom Park in the north, bedrock formations crop out and groundwater occurs in fractured aquifers. Groundwater in the Kalahari aquifers is relatively easy to locate throughout most of the north-western and central northern Tsumkwe district and the Kavango Region. Shallow aquifers with water levels above 20 m receive good recharge either directly from rainfall or indirectly from ephemeral runoff.

Generally, surface water in Namibia is sparse and therefore groundwater is a resource of key importance. According to the geological sheets, there were no definite faults identified in close proximity of the project site. Also, there are no abstraction boreholes on or near the site. The project site is however regarded by the geo-hydrologists as potentially sensitive for development from a geo-hydrological and geological point of view.

Major constraints include:

Geotechnical:	Minimum precautionary measures:
<ul style="list-style-type: none"> • Upper collapsible soil horizons 	<ul style="list-style-type: none"> • Sealing of the forecourt areas where fuel products are handled to prevent infiltration of petroleum products into the soil/rocks underlying the site. • Storm water draining from the surfaces areas should be collected in a sealed sump to be treated or removed. • Preventative measures should be installed to prevent the storm water or other liquids draining into the soil. • Subsurface fuel tanks must be placed in concrete encasements with a sump system to prevent spilled fuel from entering the bedrock or aquifer. • Fuel lines and dispensers should be rendered leak-proof and are recommended to be placed in encasements.
<ul style="list-style-type: none"> • Perched water tables 	
<ul style="list-style-type: none"> • High erosion potential; 	
<ul style="list-style-type: none"> • Localized disturbed areas due to fill 	
Geo-hydrological:	
<ul style="list-style-type: none"> • The upper sandy and gravelly horizons are highly permeable, and pollutants will rapidly percolate through such horizons. 	
<ul style="list-style-type: none"> • Perched water conditions are expected in some areas. 	
<ul style="list-style-type: none"> • The ground water table is expected to be shallow. 	

Table 5: Geotechnical and Geohydrological concerns and precautionary measures

6.4.5 Atmosphere and air quality

The proposed site is located at an open area free from atmospheric pollution. Visual observation showed the atmosphere is clear. However, the main road C44 is gravel road and during time to time visible dust is observed due to the gravel road. Although the settlement is electrified, residents mostly use firewood for heating and cooking purposes. During the evenings there is a distinct pungent smell of open fires especially when there is atmospheric inversion.

6.4.6 Vegetation

The surrounding grassveld holds Palearctic migrants, including large numbers of *Glareola nordmanni* and *Charadrius asiaticus*. Large mixed breeding colonies of *Podiceps nigricollis*, *Chlidonias hybridus*, *Fulica cristata*, *Porphyrio porphyrio*, *Gallinula angulata*, *Himantopus himantopus* and a handful of *Porzana pusilla* form in flooded grasslands around Nyae-Nyae.

6.4.7 Wildlife and biodiversity

The area associated with Tsumkwe exhibits notable vegetation and wildlife. Particularly within the Khaudom Game Reserve (Kaudwane in Tswana), lions, cheetahs, hyenas, and other large mammals can be found. The African wild dog has notable packs within the area.

6.4.8 Utilities and aesthetics

The site is accessible because is situated along the C44 arterial gravel road. There are electricity poles for electrical supply to the proposed project site. Services for telecommunications are also available, running water systems are all underground from settlement center are easily accessible. Sewerage systems are not installed. The project plan is to develop aesthetic structures around the environment.

6.4.9 Socio-economic Status

There is no permanent socio-economic activity that takes place on the site. Once the site is developed it will result in a positive socio-economic contributor through job creation during construction and operation as well as provide much needed services and spin off industries in the immediate vicinity.

6.4.10 Heritage, Cultural and Archaeological Aspects

There are no churches, mosques or related buildings near the site. No known archaeological resources have been noted in the vicinity. No other structures, sites or spheres of heritage of cultural significance was determined to be in close proximity to the site.

7. Impact Identification and Assessment

A key part of the EIA Scoping Process is the preliminary identification and consideration of issues and concerns that may impact (positively and/or negatively) with the biophysical and socio-economic environments. Issues identified as potentially significant during the Scoping Phase form the basis on which further studies were conducted in the EIA.

The potential impacts on environmental and social resources arising from the proposed development include direct and indirect impacts. Potential impacts were also linked to the different stages of the project which are identified as construction, operation, and decommissioning phases. The following sections provides a brief description of the most important of these impacts.

Criteria	Severity/Risk Rating	
Impact	+VE	Positive
	0	No impact
	-VE	Negative
Significance	L	Low (Little or no impacts)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

Probability	Duration
5 Definite	5 Permanent
4 Highly probability	4 Long-term (impact ceases)
3 Medium probability	3 Medium-term (5-15 years)
2 Low probability	2 Short-term (0-5 years)
1 Improbable	1 Immediate
0 None	
Scale	Magnitude
5 International	10 Very high/extreme
4 National	8 High
3 Regional	6 Moderate
2 Local	4 Low
1 Site only	2 None
	0 None

Table 6: Impact Evaluation Criterion (DEAT 2006).

7.1 Construction Phase

During the construction phase it is expected that, the main sources of impact will result due to the use of heavy mobile duty vehicles during construction. The predicted impacts cannot be quantified, primarily due to the lack of detailed information related to scheduling and positioning of construction related activities which will only come out in the feasibility study. Instead a qualitative description of the impacts is done which involves the identification of possible sources of emissions and the provision of details related to their impacts. The primary HSES impacts from the construction of service stations include air and noise quality impacts.

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Inherent/Raw	Residual
Dust	NEGATIVE	1	2	6	3	LOW	LOW
Noise	NEGATIVE	1	1	4	3	LOW	LOW
Safety & Security	NEGATIVE	1	1	4	2	MEDIUM	LOW
Traffic	NEGATIVE	1	2	2	2	LOW	LOW
Ground water	NEGATIVE	2	2	4	2	MEDIUM	LOW
Surface water	NEGATIVE	2	2	4	2	MEDIUM	LOW
Waste Generation	NEGATIVE	1	2	6	4	MEDIUM	LOW
Heritage	NEGATIVE	1	1	2	2	LOW	LOW
Ecology	NEGATIVE	1	1	2	2	LOW	LOW
Socio-economic	NEGATIVE	1	1	6	4	LOW	LOW

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance		Mitigation Measures/Controls
						Inherent/Raw	Residual	
Dust	NEGATIVE	1	2	6	3	LOW	LOW	<ul style="list-style-type: none"> ▪ Ensure measures are in place to minimize dust generated during the construction phase. ▪ Use appropriate dust suppression measures when dust generation is unavoidable, e.g. dampening with water, particularly during prolonged periods of dry weather. ▪ Avoid excavation, handling and transport of materials which may generate dust under high wind conditions. ▪ Locate stockpiles of construction materials in sheltered areas where they are not exposed to erosive effects of the wind. ▪ Ensure all vehicle, plant and equipment are in good condition. ▪ Encourage reduction of engine idling.

The construction of a service station generally consists of a series of different operations, each which has a different duration and potential to impact air quality. The major impactor of air quality during the construction phase is dust emission. Dust emission will vary from day to day depending on the phase of construction, the level of activity, and the prevailing meteorological conditions. Dust will be generated significantly due to the dry conditions and the sandy texture of the soils in the project area. The following possible sources of dust generation have been identified as activities which could potentially generate dust during construction operations at the site:

- Transportation of materials.
- Scraping.
- Debris handling.
- Land clearing for infrastructure.

To avoid the generation of unnecessary dust, material drop height will be reduced and material storage piles will be protected from wind erosion. This can take the form of wind breaks, water sprays or vegetation of piles. All stockpiles will be damped down, especially during dry weather. It should be noted that emissions generated by wind are also dependent on the frequency of disturbance of the erodible surface. Dust created during the transportation will be limited by watering the road sections that are being used and by either wetting the material being transported or covering the back of the trucks, to limit the windblown dust from the load.

Noise	NEGATIVE	1	1	4	3	LOW	LOW	<ul style="list-style-type: none"> ▪ Ensure the use of construction vehicles and equipment that emit reduced noise levels. ▪ Ensure proper maintenance is conducted on vehicles to ensure the reduction of noise emission. ▪ The construction staff should be equipped with ear protection equipment. ▪ Audio equipment (if any) should not be played at levels considered intrusive by others. ▪ Construction activities will be limited to a period between 07h00 and 17h00.
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The major part of service station construction usually takes place with heavy duty earth moving machinery such as bulldozers and heavy industrial activity such as welding etc. Excessive noise is generated during this process, which often can lead to disgruntled community members. Noise can also be generated during the transportation of the construction material, usually by truck, to and from the site. Noise impacts from the construction phase can be mitigated by restricting heavy duty work to hours of daylight.

								<ul style="list-style-type: none"> ▪ Display telephone numbers of emergency services at the project location. ▪ Provide suitable emergency and safety signage on site (manufactured of durable, weatherproof material). The signage
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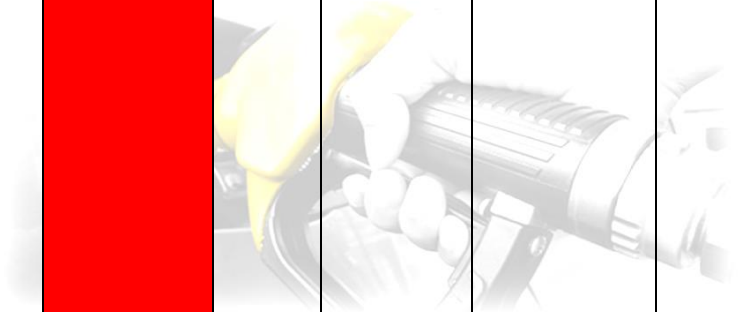
Safety & Security	NEGATIVE	1	1	4	2	MEDIUM	LOW	<p>signs should be placed at strategic locations to ensure awareness.</p> <ul style="list-style-type: none"> ▪ Demarcate and barricade any areas which may pose a safety risk (including hazardous substances, deep excavations etc.). These notices must be worded in English and the local language. ▪ Always enforce the use of appropriate Personal Protective Equipment (PPE) for the right task or duties. ▪ Prevent unauthorized access to the construction site by implementing appropriate security measures. These security measures must not pose a threat to surrounding communities. ▪ Should a construction camp be necessary, it should be in such a way that it does not pose a risk to the public. ▪ Equipment housed on site must be placed in a way that does not encourage criminal activities. ▪ For safety and security reasons it is recommended that the entire site (construction site and camp) be fenced-off and security personnel be employed to safeguard the premises and to avert criminal activities. ▪ Sensitize operators of earthmoving equipment and tools to switch off
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								<p>engines of vehicles or machinery not being used.</p> <ul style="list-style-type: none"> ▪ The contractor is advised to ensure that the team is equipped with first aid kits and that they are available on site, always. ▪ Adequate lighting within and around the construction location should be erected, when visibility becomes an issue.
Traffic	NEGATIVE	1	2	2	2	LOW	LOW	<ul style="list-style-type: none"> ▪ Install and maintain official traffic signaling (where necessary) along the C44 road with local or national traffic regulations. The local or regional traffic law enforcement agency must be consulted in this regard. ▪ Speed limit and construction site warning signs must be erected to minimize accidents. ▪ Construction vehicles and machinery must be tagged with reflective signs or tapes to maximize visibility and avoid accidents. ▪ Where feasible, construction vehicles should not travel to and from the site during peak times (07h00 to 09h00 and 16h00 to 18h00), to minimize impacts on traffic. ▪ Construction vehicles should not be allowed to obstruct the road, hence no stopping in the road, wholly or

								partially, but rather pull off the road or park on the roadside.
Ground water	NEGATIVE	2	2	4	2	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ To prevent spillages of any chemicals and petroleum products (i.e. oils, lubricants, petrol and diesel). Use drip trays, linings or concrete floors when evidence of leaks is observed on vehicles or equipment. ▪ All major servicing and maintenance of vehicles and/or equipment should be conducted at suitable workshops and containment structures. ▪ All fueling, storage and chemical handling should be conducted on surfaces provided for this purpose. Drip trays, linings or concrete floors must be used when removing oil from machinery. ▪ Spillage control procedures must be in place according to relevant SANS standards or better. Wastewater collection systems should be connected to these systems. ▪ Existing ablution facilities at the site should be used. No urinating outside these designated facilities shall be allowed. ▪ Should portable ablution facilities be necessary, adequate containment systems should be erected for these facilities. ▪ Waste should properly be contained to avoid any leakages and/or spillages and should regularly be

								<p>disposed of at a suitable sewage disposal site. Run-off from these toilets due to overflows should be avoided at all cost.</p> <ul style="list-style-type: none"> Proper environmental awareness and remedial response training of operators must be conducted on regular basis.
Surface water	NEGATIVE	2	2	4	2	MEDIUM	LOW	<ul style="list-style-type: none"> Use drip trays, linings, or concrete floors when evidence of leaks is observed on construction vehicles or equipment. Remove leaking vehicles from project site immediately. No servicing and maintenance of vehicles and/or equipment should be conducted on site. Any spillage of hazardous substances including fuel, oil, paint or cleaning solvent must be cleaned up immediately and disposed of at a designated disposal facility. Prevent discharge of any pollutants, such as cements, concrete, lime, chemicals, and hydrocarbons into the nearby water ways and courses. Existing ablution facilities at the site should be used. No urinating outside these designated facilities will be allowed. Properly secure all temporary/portable toilets (if any) to the ground

								<p>to prevent them toppling due to wind or any other cause.</p> <ul style="list-style-type: none"> ▪ Maintain toilets in a hygienic state and remove waste to a licensed disposal facility. ▪ Ensure that no spillages occur when the toilets are cleaned or emptied. ▪ Prohibit urination on site, other than at designated facilities. ▪ Contain contaminated water from batching operations and allow sediments to settle before being disposed of as wastewater. ▪ Stabilize cleared areas as soon as possible to prevent and control surface erosion. ▪ Proper environmental awareness and remedial response training of operators must be conducted on a regular basis. ▪ An emergency plan will be in place on how to deal with spillages and leakages during this phase.
								<ul style="list-style-type: none"> ▪ Ensure that sufficient weather- and vermin- proof bins/containers are present on site for the disposal of solid waste. Waste and litter generated during this phase must be placed in these disposal bins. ▪ Empty bins regularly as required.



Waste Generation	NEGATIVE	1	2	6	4	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ The Contractor shall institute a waste control and removal system for the site. ▪ All waste shall be disposed of site at an approved landfill site. ▪ No disposal of /or burying of waste on site should be conducted. No waste should be burned on site. ▪ Hazardous waste storage is to be clearly marked to indicate the presence of hazardous substances, and the protocols associated with handling of such hazardous wastes shall be known by all relevant staff members. ▪ Existing ablution facilities at the site shall be used by the contractor during this phase. No urinating outside these designated facilities. ▪ Regular inspection and housekeeping procedure monitoring will always be maintained. ▪ Awareness of the hazardous nature of various types of waste should be enforced.
Heritage	NEGATIVE	1	1	2	2	LOW	LOW	<ul style="list-style-type: none"> ▪ If such remains or objects with cultural values (e.g. bones, weapons, ancient cutlery, graves etc.) are uncovered at the project location or surrounding, it should be barricaded off, and ▪ The relevant authorities (i.e. the local police and National Heritage

								Council of Namibia) should be contacted immediately.
Ecology	NEGATIVE	1	1	2	2	LOW	LOW	<ul style="list-style-type: none"> ▪ Disturbance of areas outside the designated working zone is not allowed. ▪ No vegetation should be removed outside the designated project area.
Socio-economic	NEGATIVE	1	1	6	4	LOW	LOW	<ul style="list-style-type: none"> ▪ The construction contractor should be sourced from the settlement, or region at large (where feasible). ▪ The construction workers should be sourced from the settlement, or region at large (where feasible). ▪ Suppliers of construction materials should be sourced from the settlement, or region at large (where feasible). ▪ Locally source services required during the construction process, such as securities, rental of portable toilets, plant hire, etc.

Table 7: Construction Phase Health, Safety and Environmental Risk/Impact Identification, Assessment and Evaluation

7.2 Operational Phase

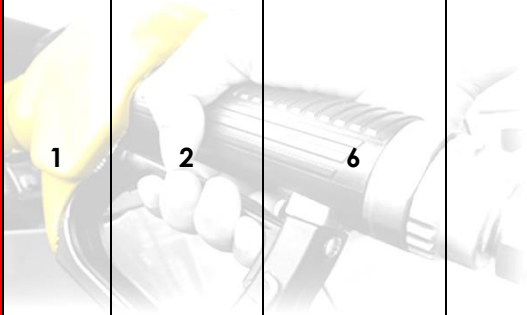
Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Inherent/Raw	Residual
Spillages	NEGATIVE	1	2	6	4	MEDIUM	LOW
Air quality	NEGATIVE	1	4	4	2	LOW	LOW
Fire & Explosions	NEGATIVE	1	1	6	2	MEDIUM	LOW
Waste generation	NEGATIVE	1	4	4	2	LOW	LOW
Surface water	NEGATIVE	1	2	6	3	MEDIUM	LOW
Soil and ground water	NEGATIVE	1	3	6	3	MEDIUM	LOW
Health & Safety	NEGATIVE	1	3	6	3	MEDIUM	LOW
Traffic	NEGATIVE	1	4	6	3	MEDIUM	LOW
Ecology	NEGATIVE	1	1	2	2	LOW	LOW
Ecology	NEGATIVE	1	2	2	2	LOW	LOW
Socio-economic	NEGATIVE	1	1	8	2	LOW	LOW

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance		Mitigation Measures/Controls
						Inherent/Raw	Residual	
Spillages	NEGATIVE	1	2	6	4	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ Risk of impact from will be lowered through proper training of staff. ▪ Installation of suitable containment structures around the dispensing points and all other operational areas. The containment system must be connected to a 2-chamber separator pit. ▪ Staff must be provided with emergency response procedures which they should be familiar with. ▪ Fuel storage tanks should be placed in suitable containment structures, such as bund walls or plastic liners to avoid the spread of spills. ▪ Staff should always be aware of the precautions associated with the handling of petroleum / chemical products as described in the relevant Material Safety Data Sheets.
<p>A spill management plan will be adopted to ensure effective response to spills. Ensure all staff are familiar with the plan and it is regularly updated. The general response to fuel spills at a service station is:</p> <ul style="list-style-type: none"> ▪ Switch off all pumps using the automatic pump cut-off. Switches should be located within easy reach of the console attendant and be clearly marked. Cut-offs at the fuse board is not acceptable. ▪ Contain the spill. Use booms or a sand / soil dam to prevent the spill from entering stormwater drains. Use the absorbents in the spill kit to soak up as much fuel as possible. ▪ Notify the site manager and / or relevant authority. ▪ Call the local Fire Brigade if a major spill occurs. ▪ Keep the public away from the spill. ▪ Contact a licensed waste contractor to dispose of the absorbents used in the clean-up operation. 								

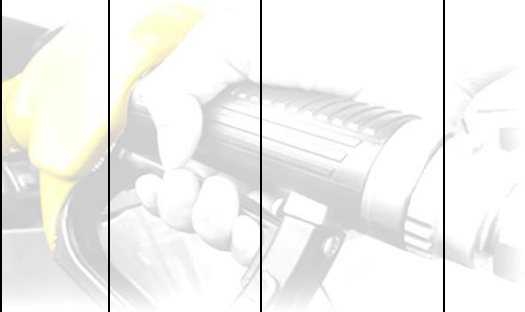
Air quality	NEGATIVE	1	4	4	2	LOW	LOW	<ul style="list-style-type: none"> ▪ Vent pipes should be placed in such a manner as to prevent impact on potential receptors. ▪ Use vapor recovery equipment and techniques to avoid air pollution and minimize fuel loss. ▪ Ensure fuel is delivered in the forecourt containment area and can't contaminate stormwater or land. ▪ Encourage reduction of engine idling at the project site. ▪ Regular air quality monitoring should be conducted at the facility. ▪ Keep a complaint register regarding vapor smells at the site; and act on it if becomes a regular complaint.
<ul style="list-style-type: none"> ▪ If Light Non-Aqueous Phase Liquids (LNAPL) are released into the vadose zone they could flow through the central portion of the soil pores until residual saturation is reached. If this happens, a three-phase system consisting of water, LNAPL, and air is formed. Infiltrating water dissolves the components within the LNAPL and transports them to the water table. These dissolved contaminants form a contaminated plume radiating from the area of the residual product. As these vapors diffuse into adjoining soil areas, they may partition back into the water phase and transfer contamination over wider areas. If the soil surface is relatively impermeable, vapors will not diffuse across the surface boundary and concentrations of contaminants in the soil atmosphere may build up to equilibrium conditions. Dissolved components of the LNAPL may also precede the less soluble components and may change the wetting properties of the water, causing a reduction in the residual water content and a decrease in the height of the capillary fringe. ▪ To mitigate the potential impact of the release of LNAPL into the atmosphere, the ground level surfaces of the project site will be covered with an impermeable material. This will reduce the diffusion of vapors into the atmosphere. Where the water table is high, cathodic protection should be used for single steel walled tanks. Otherwise, secondary contained tanks, i.e., a double-walled steel tank, double walled fiberglass, or jacketed steel tanks (with high density polythene or fiberglass outer wall) should be used. Suitable sand shall be used for both bedding and backfilling of steel tanks. Installed tank and pipe work shall be hydrostatically tested. 								

Fire & Explosions	NEGATIVE	1	1	6	2	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ Emergency response procedures should be in place to alert the employees on how to react to fire and explosions incidents. ▪ An incident reporting procedure should also be implemented to make the employees aware of how, when and to whom to report fire and explosion incidents. ▪ Regular inspections should be carried out to inspect and test firefighting equipment and emergency response at the fuel retail facility. ▪ Ensure sufficient water is available all the time for firefighting purposes. ▪ It is highly recommended that electrical wiring of the facility be installed and approved by a qualified electrician who will issue a Certificate of Compliance.
Waste generation	NEGATIVE	1	4	4	2	LOW	LOW	<ul style="list-style-type: none"> ▪ Contamination of soil should be prevented using containment areas as provided. ▪ Any contaminated soil generated must be contained and bioremediated accordingly. ▪ Waste bins must always be available at the retail facility. ▪ Waste must be appropriately collected and disposed of at an approved appropriate waste disposal site.

								<ul style="list-style-type: none"> Oil-water separator effluent originating from storm water runoff, tank bottoms and washing activities should be separated before disposal of the water. Regular monitoring of the oil-water separator outflow must be conducted.
Surface water	NEGATIVE	1	2	6	3	MEDIUM	LOW	<ul style="list-style-type: none"> Proper containment mechanisms installed should be able to contain any spillages that might occur during the operation of the facility. Use drip trays, linings, or concrete floors when evidence of leaks is observed on construction vehicles or equipment. Remove leaking vehicles from project location immediately. The presence of an emergency response plan and suitable equipment is advised, to react to any spillage or leakages properly and efficiently. Remove all excess sedimentation, rubble and any other waste material present in the waterway and dispose of in a suitable manner to ensure proper drainage runoff. Ensure that stormwater management systems are regularly maintained and tested and are in good working order.



Soil and ground water	NEGATIVE	1	3	6	3	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ Ensure that fuel is delivered in the forecourt containment area and must not contaminate stormwater or land. ▪ Proper monitoring of the product levels must take place to eliminate overfilling. ▪ All operational surfaces at the facility must be installed with spill containment areas. ▪ Ensure that any petroleum products, such as grease, waste oils and lubricants are contained in containment structures (e.g. plastic liners, drip trays etc.). ▪ Avoid discharge of pollutants (such as cement, concrete, lime, chemicals, contaminated wastewater, or leachate) into stormwater channels and water courses. ▪ All hazardous wastes generated in the project area should be safely contained, transported, and disposed of, or treated at a designated hazardous waste disposal or bioremediation facility. ▪ Equipment and materials to deal with spill cleanup must be readily available on site and staff must be trained as to how to use the equipment and briefed about reporting procedures.
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								<ul style="list-style-type: none"> ▪ Develop and implement a groundwater monitoring system and programme, with the aim of monitoring possible contamination to the water resources. ▪ Groundwater monitoring boreholes installed should be sampled and analyzed periodically. ▪ Regular tank and pipeline tightness inspections are advised to eliminate the risk of impact on the environment due to leakage. ▪
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Groundwater and soil pollution from hydrocarbon products are risks associated with the storage and handling of petroleum products (hydrocarbons). When a release of hydrocarbon products takes place into the soil, infiltrates the soil in the form of Light Non-Aqueous Phase Liquids (LNAPL). When this happens LNAPL start to migrate vertically downwards. The shallow ground zone between the land surface and the top of the ground water table where fuel tanks are installed is called the vadose zone.

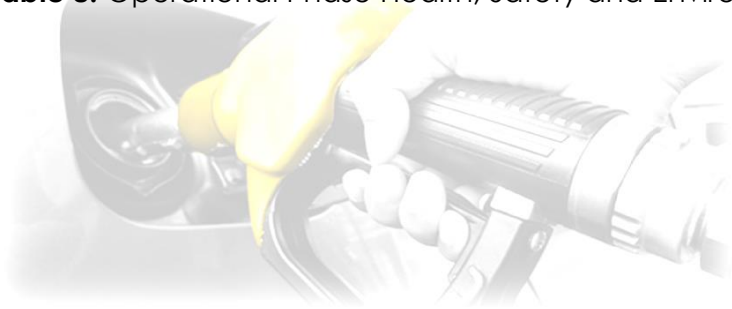
Other guiding principles to the prevention of potential leakages and/or spillages that could lead to groundwater pollution include:

- Spillage control procedures must be in place according to SANS 10089-1:1999 and SANS 100131-2 standards, or better, including impounding around the loading areas by bunding with appropriate slopes of 1:100, construction of bund walls and floors that are liquid tight and that are not prone to deterioration under the effects of any petroleum product;
- The procedures followed to prevent environmental damage during service and maintenance, and compliance with these procedures, including the correct use of sumps and regular reporting of spillages must be audited and corrections made where necessary.
- The condition of the fuel reticulation system will have to be checked regularly and repaired to prevent leakages.
- Any spillage of more than 200 liters must be reported to the relevant authorities and remediation instituted (refer to section 49 of the Petroleum Products and Energy Act, 1990 (Act No. 13 of 1990).

Health & Safety	NEGATIVE	1	3	6	3	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ Staff must be properly trained and made aware of all the MSDS (Material Safety Data Sheets) sheets of all chemicals on site. ▪ Firefighting equipment and first aid kit should be made available and must be serviced regularly. ▪ Employees are expected to be trained on how to use all equipment and how to handle petroleum products, and training attendance lists must be kept. ▪ Display contact details of emergency services in the area at strategic locations of the facility. ▪ Demarcate and place signage on any areas which may pose a safety risk (including trenches, excavations etc.). ▪ The project personnel are advised to ensure that proper personal protective gear and first aid kits are available, always. ▪ Staff should be properly trained in first aid and safety awareness.
Traffic	NEGATIVE	1	4	6	3	MEDIUM	LOW	<ul style="list-style-type: none"> ▪ Speed limits and road signs as set out by national traffic regulations should be adhered to minimize accidents. ▪ Appropriate road signs should be erected to reduce these impacts and their spin-offs.

Ecology	NEGATIVE	1	2	2	2	LOW	LOW	<ul style="list-style-type: none"> ▪ The operational activities would not exceed the demarcated area of the fuel retail facility.
Socio-economic	NEGATIVE	1	1	8	2	LOW	LOW	<ul style="list-style-type: none"> ▪ Employment creation should be targeted at the immediate communities of Tsumkwe, or region at large ▪ Suppliers of operational stock should be sourced from the settlement, or region at large (where feasible). ▪ Locally source services required during the operational process, such as securities, rental of portable toilets, plant hire, etc.

Table 8: Operational Phase Health, Safety and Environmental Risk/Impact Identification, Assessment and Evaluation



Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Inherent	Raw Residual
Construction							
Possible cumulative impacts associated with the construction phase include an increase in traffic visiting the site. An increase in emissions from these vehicles will be experienced, decreasing the air quality around the proposed development. Wear and tear on the roads could be expected, coupled with increased risks of road traffic incidences. These impacts will be short lived for the duration of construction.							
Cumulative impacts	NEGATIVE	2	2	6	2	LOW	LOW
Operational							
Potential cumulative impacts associated with the operational phase include increase in traffic around the site. Emissions from vehicles visiting the proposed fuel retail facility are expected, coupled with the existing emissions from vehicles in the surrounding areas, the air quality will be impacted. Coupled potential hydrocarbon pollution from the existing fuel retail facility and the proposed facility could become significant if not managed properly. These impacts can be long-term as long as the retail facility is operating.							
Cumulative impacts	NEGATIVE	2	2	6	2	MEDIUM	LOW

Table 9: Cumulative impacts on construction and operational phases

7.3 Detecting Loss of Product

Leaks and spills of products do not necessarily indicate the potential spill size; however, the accuracy of stock monitoring techniques is critical to detecting leaks at an early stage. It follows that a larger quantity of product may lead to soil and groundwater from a long running undetected pipe work leak than from a catastrophic failure of an underground tank. Thus, it's very important to that proper stock management techniques are implemented prior to the operation of the filling station.

Loss of product are often indicated by stock reconciliation systems; upon investigation it may be determined that losses are not caused by leaks. Dispenser meters should be checked periodically and other sources of loss (e.g. theft, faulty gauge probes etc.) should be considered. The elimination of apparent losses should improve business, performance and improve the leak detection capacity of the systems in use.

7.4 Health, Safety, Environmental and Socio-Economic Impacts

The operation of service stations centrally involves the commercial transactions of hydrocarbon fuels (petrol, diesel, liquid, petroleum, gas, or paraffin). Additionally, //Aiha service station plans to provide additional services including bread baking, washing, and polishing vehicles, and other retailing activities. Regarding these activities, Health, Safety, Environment and Socio-economic impacts assessment will take into consideration the relationship between operational activities and the social life. This relationship is interlinked by the dependence of social activities on economic activities and economic activities on social activities. In most instances the focus is on the social impacts due to economic changes which, could trigger a change in an entire society or small changes within the community. Thus, in addition to soil and ground pollution as potential pollution hazards, there are other major health, safety and environmental issues associated with operating service stations. These are

classified into health risks, safety risks, environmental impacts, and socio-economic impacts. Table 9 below lists these activities, and a brief description is provided.

HSES Impacts	Description
Health Risks	
Noise impacts	Some noise will exist due to heavy and light motor vehicles accessing the site for delivering and collecting fuel during operations.
Air Quality	Hydrocarbon vapors containing volatile organic compounds, which harm human health and contribute to ozone pollution. Running motor vehicles produce carbon monoxide and particulate matter.
Manual handling	Hydrocarbons are carcinogenic and dermal contact and inhalation of fumes should be prevented.
Safety Risks	
Slips, trips and falls	Fuel, oil spills and water on the forecourt can put workers and others at risk of slip, trip or fall injuries.
Fire and explosion	Unleaded petrol is extremely flammable and if fuel is not handled according to Material Safety Data Sheet instructions and SANS requirements, a fire risk exist during the operational phase.
Compressed Air System	Compressed air is extremely forceful. Depending on its pressure, compressed air can dislodge particles. These particles are a danger since they can enter your eyes or abrade the skin.
Violence & harassment	There are many causes of violent behavior with customers. Some may be easy to identify, such as frustration, anger, misunderstanding, stress, communication problems, conflict with authority and theft/robbery.
Environmental Impacts	
Solid and liquid waste generation	Integral containers of adequate design and capacity should be provided for solid waste, such as discarded cans, bottles, etc. Proper facilities for storage and disposal of used and waste oil and gas must also be provided. Wastewater from the washing of motor vehicles and sewage must also be disposed of satisfactorily.
Ground water, surface water and soil contamination	Operations entail the storage and handling of various hydrocarbons (such as fuels and lubricants) which present a contamination risk. Contamination may either result from failing storage facilities, or spills and leaks associated with fuel handling. The facility provides fuel to public vehicles which may further present contamination risks through overfills. Such material may contaminate surface water, soil and groundwater. Modern retail facilities are well designed to reduce leakages and spillages form contaminating soil and water.
Traffic impacts	During operations some traffic impacts can be experienced in the vicinity of the fuel retail facility especially where vehicles gains access from and to the facility.
Socio-economic	
Economic benefits	Operations of the fuel retail facility provide employment opportunities to residents of Tsumkwe. The operational phase creates permanent employment opportunities and some training and skills development takes place.
Increased land value and real estate	The addition of the service station will potentially improve the adjacent land as new industrial activities will want to be located near a filling station.

Table 10: HSES impacts from operating service stations

7.5 Decommissioning Phase

The impacts associated with this phase will be like that of the construction phase. The supplier's guidelines for tank removal must be followed to reduce the risk of spillage and groundwater contamination. The Environmental Management Plan for this phase will have to be reviewed at the time of decommissioning to cater for changes made to the development.

The decommissioning phase is associated with activities related to the demolition of infrastructure and the rehabilitation of disturbed areas. The total rehabilitation will ensure that the total area will be a free draining covered with topsoil and grassed. The following activities are associated with the decommissioning phase:

- Existing buildings and structures demolished, rubble removed, and the area levelled.
- Remaining exposed excavated areas filled and levelled using overburden recovered from stockpiles.
- Stockpiles and tailings impoundments to be smoothed and contoured.
- Topsoil replaced using topsoil recovered from stockpiles; and
- Land and permanent waste piles prepared for revegetation.

Possible sources of fugitive dust emission during the closure and post-closure phase include the following:

- Movements of stockpiles by bull dozers.
- Grading of the site.
- Transport and disposal of overburden for filling.
- Infrastructure demolition.
- Infrastructure rubble piles.
- Transport and disposal of infrastructure rubble.
- Transport and reuse of topsoil; and
- Soil preparation for revegetation

Exposed soil is often prone to erosion by water. The erodibility of soil depends on the amount of rainfall and its intensity, soil type and structure, slope of the terrain and the amount of vegetation cover (Brady, 1974). Revegetation of exposed areas for long-term dust and water erosion control is commonly used and is the most cost-effective option.

Typically, the first stage of decommissioning involves demolishing the forecourt buildings and canopy. This gives clear access to the ground to remove the tanks and their associated pipe work. Next the site is checked for contamination before being backfilled and restored to a level surface.

7.6 Discussion

From the impact assessment conducted, we deduced that the proposed development of //Aiha Service Station is suitable for the site assessed. None of the adverse impacts that were identified are regarded as impacts that cannot be mitigated to acceptable levels. The benefits of the proposed development outweigh any negative impacts identified, therefore, the no-go option was also discounted and thus omitted from discussion. Most of the HSES impacts identified can be mitigated to acceptable standards and reasonably low and accepted standards.

A summary of the main HSES impacts may be summarized as follow:

- If the proposed development is managed appropriately the //Aiha Service Station could have a significant impact on the socio-economic environment and could even have a positive impacts on the socio-economic environment; including improved visual impacts, economic benefits, skills development and indirect economic impacts from additional traffic. If measured over the long term it is expected that the development will outweigh the negative socioeconomic aspects.
- The biophysical environment will mostly be affected by construction activities that could result in excessive noise and dust, however during operation, we expect waste and noise to be generated.
- The geotechnical and geo-hydrological aspects of the study area are regarded as the most sensitive. The soils of the study area are very permeable, and the corrosiveness of the soil also contributes to such sensitivities that must be taken into consideration.
- In terms of safety and health, most impacts are associated with operations and employee safety. These impacts are however not major and can be mitigated through the application of effective controls from injuries and occupational illnesses.
- The proposed development will have a positive impact on the economy due to temporary employment opportunities during the construction phase and permanent employment opportunities for the residents of Tsumkwe community. It will also have a positive impact on the social environment as there will be visible investment from the private sector within this undeveloped area.

Furthermore, the development should now be planned, constructed, and operated in strict accordance with the mitigation measures and an Environmental Management Plan (EMP) which must adhere to all requirement of any authorizations issued for the proposed development.

8. Environmental Management Plan

The Environmental Management Plan (EMP) provides management options to ensure impacts of the proposed development are minimized. An EMP is an environmental management tool used to ensure that undue or reasonably avoidable adverse impacts of the construction, operation and decommissioning of a project are prevented, and the positive benefits of the projects are enhanced.

The objectives of the EMP are:

- to include all components of the development.
- to prescribe the best practicable control methods to lessen the environmental impacts associated with the construction of the development.
- to monitor and audit the performance of construction personnel in applying such controls; and

- to ensure that appropriate environmental training is provided to responsible construction personnel.

The EMP acts as a stand-alone document, which can be used during the various phases of the proposed fuel retail facility. All contractors taking part in the construction of the facility should be made aware of the contents of the EMP.

This section outlines how the HSES Impacts identified and assessed in chapter 6 can be incorporated and managed in the planning and design phases of the proposed //Aiha service station at Tsumkwe settlement. It forms part of the Environmental Management Plan (EMP) wherein the HSES impact mitigation measures are proposed and considered. The EMP is structured to provide various intended recipients (Developer, ER, consulting engineers and contractors) with mitigation measures immediately applicable to their respective scopes of work. The management requirements for the various recipients carrying out work for this project are divided according to the main project phases

8.1 Planning and Design

During the phases of planning for future operations, construction and decommissioning of the facility, it is the responsibility of Gaoxa Trading Cc to ensure they are and remain compliant with all legal requirements. Gaoxa Trading Cc will also ensure that all required management measures are in place prior to and during all phases, to ensure potential impacts and risks are minimized.

The following actions are recommended for the planning phase and should continue during various other phases of the project:

- Ensure that all necessary permits from the various ministries, local authorities and any other bodies that governs the construction (maintenance) activities and operations of the project remains valid.
- Ensure all appointed contractors and employees enter into an agreement which includes the EMP.
- Ensure that the contents of the EMP are understood by the contractors, subcontractors, employees, and all personnel present or who will be present on site.
- Make provisions to have a Health, Safety and Environmental Coordinator to implement the EMP and oversee occupational health and safety as well as general environmental related compliance at the site.

Furthermore, the following emergency plans, equipment, and personnel on site where reasonable to deal with all potential emergencies:

- ✓ Risk management / mitigation / EMP/ Emergency Response Plan and HSE Manuals.
 - ✓ Adequate protection and indemnity insurance cover for incidents.
 - ✓ Comply with the provisions of all relevant safety standards; Procedures, equipment and materials required for emergencies.
 - ✓ If one has not already been established, establish, and maintain a fund for future ecological restoration of the project site should project activities cease and the site is decommissioned, and environmental restoration or pollution remediation is required.
- Establish and / or maintain a reporting system to report on aspects of construction activities, operations and decommissioning as outlined in the EMP.
 - Keep monitoring reports on file for submission with environmental clearance certificate renewal applications where needed.
 - Appoint a specialist environmental consultant to update the EA and EMP and apply for renewal of the environmental clearance certificate prior to expiry.

8.1.1 HSES Impacts mitigation strategies

The following general mitigation strategies are recommended for the planning and design phase to reduce identified HSES impacts:

- Locate access routes and other infrastructure to avoid the removal of bigger trees as far as possible.
- Design boundary fencing in such a way that small burrowing animals do not enter the project site.
- The intersection of the access road to the service station site will be designed by a professional engineer and submitted to the Roads Authority (RA) for approval. Gaoxa Trading Cc will notify RA well in advance as to when the actual construction phase will begin.
- Buildings will be designed such as to minimize the transmission of noise from the inside to the outdoors. In doing so, ensure that the facility is designed to consider the maximum allowable equivalent continuous day and night rating levels of the potentially impacted sites outside the project boundary.
- Fuel tanks and fuel dispensers will be designed and installed in line with SABS and the manufacturer's recommendations. Installation will be done with care as damage can occur during installation.
- Ensure landscaping designs prohibits the planting of potentially alien invasive plant species (e.g. *Tecoma stans*, *Pennisetum setaceum*, etc.) for decorative purposes (e.g. around offices, etc.) and incorporates indigenous vegetation (especially the protected species such as *A. Erioloba*, *Albizia anthelmintica*, *B. albitrunca*, *B. foetida*, *Faidherbia albida*, *Parkinsonia africana*, *Ziziphus mucronata*) into the developments as far as possible (e.g. around offices, etc.).

8.1.2 Strategies to optimize socio-economic benefits

The following mitigation measures are recommended for the planning and design phase to reduce the impact on the socio-economic aspects.

- The contractor will be required to employ local labor (i.e. from Tsumkwe Settlement and surrounding villages within Otjozondjupa region) where possible. The requirements for employing local people will be formalized within the contractor's contract. Should a position be offered to non-local person the contractor should be able to prove that no local person qualifies for such a position, through advertising.
- A provision stating that all unskilled labor should and will be sourced from local communities and be included within tenders concerning the construction and/or maintenance of services infrastructure.
- Provisions promoting gender equality pertaining to recruitment will be included within tender documents concerning the construction and/or maintenance of services infrastructure.
- Women will be given preference for certain unskilled jobs (e.g. flag bearers).
- It is crucial that the project procurement criteria include requirements for training and skills development of the contractor's workforce by the contractor. The training should be able to capacitate the employees to apply for permanent positions during the operations.
- Gaoxa trading Cc will follow up to ensure that the contractor is indeed following the guidelines as prescribed in this EMP.

8.2 Responsibilities

The responsibility for the implementation of the EMP ultimately lies with Gaoxa Trading Cc (the proponent), who is also responsible for the eventual operation of these developments. The implementation of the EMP requires the involvement of several key individuals appointed by the proponent, each fulfilling a different but vital role to ensure sound environmental management during each phase of these developments.

The following positions and their respective responsibilities are outlined below:

- Employer's Representative: to manage projects during different phases.
- Environmental Control Officer: to oversee the implementation of EMP.
- HSE Officer: Construction and Operations and Maintenance.

8.2.1 Employer's Representative (ER)

The ER is appointed by the developer to manage all contracts for work/services that are outsourced during all development phases. Any official communication regarding work agreements is delivered through this person. The ER should with the commencement of the project appoint a competent ECO who will represent the Developer on-site. He/she will have the responsibility regarding the implementation of this EMP to ensure the necessary legal authorizations have been obtained; and to develop, managing implementation of and maintaining all development.

8.2.2 Environmental Control Officer (ECO)

The ECO should be a competent person who is the Developer's on-site representative primarily responsible for the monitoring and review of on-site environmental management and implementation of the EMP by the Contractor. If no ECO is appointed the duties of the ECO fall upon the ER. The ECO's duties include but not limited to the following:

- Assisting the ER in ensuring that the necessary legal authorizations have been obtained.
- Maintaining open and direct lines of communication between the ER, Developer, the Construction and/or Operations and Maintenance Contractor, and Interested and Affected Parties (I&APs) regarding this EMP and matters incidental thereto.
- Monthly site inspection of all construction and/or infrastructure maintenance areas about compliance with this EMP.
- Monitor and verify adherence to the EMP (audit the implementation of the EMP) and verify that environmental impacts are kept to a minimum.
- Be fully conversant with the Environmental Management Plan.

8.2.3 Health, Safety and Environmental (HSE) Officer

The HSE Officer will be a competent person that will oversee the safety, health, and environmental affairs. The below will be the responsibilities:

- Convey the contents of this EMP to the contractor and undertake inspection of the site to monitor compliance with the EMP.
- Report any non-compliance or remedial measures that need to be applied to the appropriate environmental authorities, in line with the requirements of the EMP.
- Submitting a report at each site meeting which will document all incidents that have occurred during the period before the site meeting.
- Be fully conversant with the Environmental Management Programme.

8.3 Monitoring

A monitoring programme will be in place not only to ensure compliance with the EMP through the contract/work instruction specifications, but also to monitor any environmental issues and impacts which have not been accounted for in the EMP that are, or could result in significant environmental impacts for which corrective action is required.

The following measures will be incorporated as part of the monitoring programme:

- A monitoring programme will be implemented for the duration of the construction phase of the project. This programme will include Monthly audits will be conducted by the ECO/s for the duration of the construction phase – the ECO shall undertake this environmental monitoring with the audits considering compliance with the EMP, the EIA conditions, as well as the conditions of any permits and/or licenses.
- On-going monitoring is to be undertaken by the Contractors' Environmental Manager/Officer – this will include notification to the ECO and proponent EO should an incident take place.
- External auditing and inspection may take place at unspecified times by the authorities and/or other relevant authorities.
- An independent, suitably qualified, auditor will need to be contracted to conduct an audit once the construction phase of the project is completed according to the provisions of the EMP.
- The Contractor's Environmental Officer must undertake regular site inspections (at least twice weekly) to ensure all legislative requirements are adhered to. Proof of such inspections shall be kept on file for ease of reference or for audit purposes.

8.3.1 Contractor

The Contractor is responsible for the implementation of the EMP, on-site monitoring and evaluation of the EMP. It is envisaged that various contractors might be appointed at various periods for various tasks throughout the life cycle (construction through to decommissioning phase) of this project. To ensure sound environmental management, the relevant sections of this EMP will be included in all contracts of work outsourced thus legally binding all appointed contractors and sub-contractors.

Furthermore, all contractors shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers and visitors or new employees are inducted on the environmental, health and safety issues related to the project as well as importance and implications of the proposed EMP. The induction process shall be conducted, as far as is possible, in the employees' language of choice. All environmental training sessions, including names, dates and the information presented should be recorded and be kept on site.

8.3.2 Environmental Specifications: Awareness, Training and Competence

It is important to ensure that all personnel have the appropriate level of environmental awareness and competence to ensure continued environmental due diligence and ongoing minimization of environmental harm. To achieve effective environmental management, it is important that employees, contractors and subcontractors are aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMP. Environmental training may typically include the following:

- Employees must have a basic understanding of the key environmental features of the construction site and the surrounding environment.
- Employees will be familiar with the requirements of the EMP and the environmental specifications as they apply to the construction of the power station.

- Basic training in the identification of archaeological artefacts, and rare and endangered flora and fauna that may be encountered on the site.
- Awareness of any other environmental matters, which are deemed to be necessary by the ECO.

Records will be kept of those that have completed the relevant training. Training can be done both in a written or verbal format and in an appropriate language but will be in an appropriate format for the receiving audience. Where training has been done verbally, persons having received training must indicate in writing that they have indeed attended a training session. A regular form of written or verbal testing will have to be designed.

8.4 The construction phase and its mitigation details

All activities involved in the development phases of the service station have been identified together with all aspects that may have potential impacts. The construction phase of the EMP aims to address environmental and social risk pertaining to the construction phase.

The following table provides the Environmental Management Plan and the EMP Implementation Strategy a large-scale overview of all the major environmental management themes pertaining to the project activities.



Aspect	Impact	Mitigation	Indicator	Implementer
Waste Management Plan	There is a potential environmental contamination and degradation from waste on site	The contractor will compile a waste management plan which will address as a minimum the mitigation measures below.	Correct handling of waste	Contractor ECO
Hazardous waste	Impact on soil and water.	<ul style="list-style-type: none"> • All heavy construction vehicles and equipment on site should be provided with a drip tray. • The drip trays should be cleaned daily, and spillage handled, stored and disposed of as hazardous waste. • Maintenance and washing of construction vehicles should be take place only at a designated workshop area. • The workshop should have an oil-water separator for collected run-off from washing. • Spilled cement and/or concrete (wet or dry) should be treated as hazardous waste and disposed of by the end of each day in the appropriate hazardous waste containers. • All hazardous substances (e.g. fuel etc.) or chemicals should be stored in a specific location on an impermeable surface that is bunded. 	Correct handling, use and storage of materials, including hazardous material.	Contractor and ECO
General waste	The incorrect management of solid waste can result in the pollution of soil, groundwater and the general environment. Windblown litter can also contribute to a negative visual impact.	<ul style="list-style-type: none"> • The construction site should be kept tidy at all times. All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. • No waste may be buried or burned. • Waste containers (bins) should be emptied regularly and removed from site to a recognized (municipal) waste disposal site. All recyclable waste needs to be taken to the nearest recycling depot. • Enough separate bins for hazardous and domestic/general waste must be provided on site. These should be clearly marked as such. 	Complaints from neighbors. No windblown waste. Contamination of the ground and water resources	Contractor and ECO

		<ul style="list-style-type: none"> • Construction laborers should be sensitized to dispose of waste in a responsible manner and not to litter. • No waste may remain on site after the completion of the project 		
Sewage and grey water	Poor management of sewage and grey waste may contaminate the soil, vegetation and underground water resources.	<ul style="list-style-type: none"> • Sewage should not be discharged directly onto open soil. • All sewage must be removed regularly and disposed of at a recognized sewage treatment facility. • Grey water that is not recycled should be removed along with sewage on a regular basis. • Separate toilets should be available for men and women and should clearly be indicated as such. • Portable toilets (i.e. easily transportable) should be available at the construction site: • Sewage needs to be removed on a regular basis to an approved municipal) sewage disposal site. Alternatively, sewage may be pumped into sealable containers and stored until it can be removed. • Workers responsible for cleaning the toilets should be provided with latex. 	No sewage spills on site. No sewage and grey water pools on site.	ECO
Open Fires	Fire outbreak on communal lands.	No open fires may be made anywhere on site.	No sign of burnt material on site.	Contractor and ECO
Environmental Training of Workers	Without proper training the health and safety of workers will be at risk and Preventable environmental impacts could occur.	All construction workers are to undergo environmental induction (training) which should include as a minimum the following: <ul style="list-style-type: none"> • Discussion of the potential environmental impacts of construction activities. • Employees' roles and responsibilities, including emergency preparedness. • Explanation of the mitigation measures that must be implemented when work groups carry out their respective activities. 	All employees adhere to the mitigation measures provided in this document.	MET and Gaoxa Trading Cc
Communication	Inability to communicate the Environmental obligations effectively to responsible parties can result in unnecessary	To ensure that the construction activities do not result in avoidable impacts on the environment by anticipating and managing the impacts.	The ECO is aware of decisions taken by the engineer and contractors. All relevant	ECO, Contractor and Gaoxa Trading Cc

	environmental degradation.	<ul style="list-style-type: none"> All site instructions pertaining to environmental matters issued by the Contractor are to be copied to the ECO. All sub-contractors, employees, suppliers, or agents etc. must be fully aware of the environmental management requirements detailed in this EMP. Have a copy of the EMP and ECC available on site at all times for reference purposes. 	stakeholders are kept in the loop of all activity taking place on site.	
Socio- economic impact	The activity could benefit local Communities through job creation, however negative impacts are also possible and must be controlled.	<p>Adhere to the legal provisions in the Labor Act (see Table 1) for the recruitment of labor (target percentages for gender balance, optimal use of local labor and SME's, etc.) in the Contract. The Contractor should compile a formal recruitment process including the following provisions as a minimum:</p> <ul style="list-style-type: none"> Recruitment should not take place at construction sites. Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labor outside the agreed upon process. Contractors should give preference in terms of recruitment of sub-contractors and individual laborers to those who are qualified and from the project area and only then look to surrounding towns. Clearly explain to all jobseekers the terms and conditions of their respective employment contracts (e.g. period of employment etc.) – make use of interpreters where necessary. 	Contribute to employment and capacity building in the local community. Creating awareness Amongst employees and the public.	Contractor and ECO
Heritage Resources	Heritage resources can be impacted on during the site clearance, earthworks, and the construction of the facility.	<p>Should a heritage site or archaeological site be uncovered or discovered during the construction phase of the project, a "chance find" procedure should be applied in the order they appear below:</p> <p>If operating machinery or equipment stop work.</p> <ul style="list-style-type: none"> Demarcate the site with danger tape. Determine GPS position if possible. Report findings to the construction foreman. Report findings, site location and actions taken to superintendent. 	No heritage artefacts are disturbed or destroyed on site and the NHC is informed should any heritage artefacts be discovered on site.	ECO, Proponent and Contractor

		<ul style="list-style-type: none"> • Cease any works in immediate vicinity. • Visit site and determine whether work can proceed without damage to findings. • Determine and demarcate exclusion boundary. • Site location and details to be added to the project's Geographic Information System (GIS) for field confirmation by archaeologist. • Inspect site and confirm addition to project GIS. • Advise the National Heritage Council (NHC) and request written permission to remove findings from work area; and • Recovery, packaging and labelling of findings for transfer to National Museum. • Should human remains be found, the following actions will be required: <ul style="list-style-type: none"> • Apply the chance find procedure as described above. • Schedule a field inspection with an archaeologist to confirm that remains are human. • Advise and liaise with the NHC and Police; and • Remains will be recovered and removed either to the National Museum or the <ul style="list-style-type: none"> • National Forensic Laboratory. 		
<p>Ecological conservation</p>	<p>Constructing the facility may have impacts on the fauna and flora. Additional pylon infrastructure to the substation areas is expected to be detrimental to larger avian species – i.e. potentially increase collision rates. Destruction of vertebrate fauna. Destruction of unique flora and special habitats</p>	<p>To prevent unnecessary disturbance to natural flora and fauna:</p> <ul style="list-style-type: none"> • Prevent and discourage the setting of snares (poaching), illegal collecting of veld foods (e.g. tortoises, etc.), indiscriminate killing of perceived dangerous species (e.g. snakes, etc.) and the collection of wood in and surrounding the project area. • Initiate a policy of capture, removal and relocation of fauna (e.g. slow-moving species such as tortoises and chameleon) encountered serendipitously within the project site. • Avoid off-road driving and unnecessary nocturnal driving in the area. • Prevent and discourage the setting of snares (poaching), illegal collecting of veld foods (e.g. 	<p>No animals are injured. No setting of snares No employees enter the no-go areas. No alien vegetation establishment. Implement speed limits and temporary speed humps. No off-road driving</p>	<p>ECO and Contractor</p>

		<p>tortoises, etc.), indiscriminate killing of perceived dangerous species (e.g. snakes, etc.) and the collection of wood in and surrounding the project area.</p> <ul style="list-style-type: none"> Initiate a policy of capture, removal, and relocation of fauna (e.g. slow-moving species such as tortoises and chameleon) encountered serendipitously within the Avoid the removal of bigger trees (especially protected species – i.e. <i>Clospherpemum mopani</i> [Forestry Ordinance No. 37 of 1952) – during the construction phase(s) – including the development of access routes and other infrastructure developments. Prevent planting of potential alien species of plants. 	<p>No setting of fires</p> <p>Establish an appropriate refuse removal policy.</p> <p>No domestic pests on site</p>	
Topsoil	<p>Topsoil may be removed during the site preparation and excavation process, which could lead to land degradation.</p>	<p>To minimize the erosion of topsoil:</p> <ul style="list-style-type: none"> When excavating, topsoil should be stockpiled in a demarcated area. Stockpiled topsoil should be used to rehabilitate the nearest borrow area (existing borrow pits), if such an area is located less than 20 km from the stockpile eg. Sand pits in the Tsumkwe Area 	<p>All topsoil removed is rehabilitated to its natural state at the end of the construction operations.</p>	<p>ECO and Contractor</p>
Stormwater runoff, erosion, and pollution of surface water and groundwater resources	<p>Contamination of stormwater runoff can impact on the surface and groundwater resources. The mismanagement of stormwater can furthermore, result in erosion</p>	<ul style="list-style-type: none"> Prevent storm water from eroding the land and becoming contaminated. Should construction activities for the proposed infrastructure need to take place within the drainage features (i.e. linear development including roads and transmission lines) this must transect the streams at right angles and be limited as far as possible to ensure minimum disturbance of such areas. Demarcate a 100 m no-go zone from ephemeral watercourses during construction to prevent construction activities from occurring near the ephemeral watercourses to prevent further loss of vegetation, erosion, and watercourse sedimentation. Any disturbed areas must be rehabilitated as Rubble, sand and waste material resulting from the construction activities must be cleared up but not disposed in any stream or drainage channels as it will impede on the flow in these channels. 	<p>Stormwater not contaminated by construction activities. Stormwater control measures are effective at regulating runoff from the site and erosion channels do not develop. Freshwater ecosystems are not unduly disturbed by construction activities within the drainage</p>	<p>Contractor and ECO</p>

		<ul style="list-style-type: none"> The abstraction of groundwater must be properly controlled within a prescribed water demand management plan and as required by the license conditions. A critical groundwater level must be determined, and the groundwater table must be maintained above such critical levels during water abstraction periods. 	channels.	
Traffic	During the construction phase, it is expected that there will be regular movement of vehicle to and from the site for transportation of workers and materials.	<p>To ensure that increased traffic volume is managed efficiently to minimize associated impacts:</p> <ul style="list-style-type: none"> Demarcate roads clearly. Off-road driving should not be allowed. All vehicles that transport materials to and from the site must be roadworthy. Drivers that transport materials should have a valid driver's license and should adhere to all traffic rules. Loads upon vehicles should be properly secured to avoid items falling off the vehicle. Access road entrances must be demarcated, both at their exit point from existing roads and the entry point to the site. Erect signage to warn motorists about construction activities and heavy vehicle movement where appropriate. 	Traffic is orderly, free flowing and controlled.	Contractor
Dust	Dust generated from materials handling, roads and stockpiles can become a nuisance to neighboring landowners.	<p>To avoid nuisance impacts caused by dust as far as possible:</p> <ul style="list-style-type: none"> A watering truck should be used on gravel roads with the heaviest vehicle movement especially during dry and windy conditions. However, due consideration should be given to water restrictions during times of drought. 	No complaints received from public and or site staff.	Contractor and ECO
Noise	The increase in traffic and operation of equipment such as welding and fixing of the racks may result in noise becoming a nuisance.	<p>To ensure that noise from the construction activities do not exceed unacceptable levels:</p> <ul style="list-style-type: none"> Work hours should be restricted to between 08h00 and 17h00 where construction involving the use of heavy equipment, power tools and the movement of heavy vehicles is less than 500 m from residential areas. If an exception to this provision is required, all residents within the 500 m radius should be given 1 week's written notice. 	No noise complaints received.	Contractor and ECO

		<ul style="list-style-type: none"> Workers will be required to wear ear protecting devices whenever possible. If the contractor needs to undertake activities outside the hours above, the residential and community receptors within audible range of the activity must be notified within 24 hours in advance of the planned activity. 		
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Table 11: Environmental Management Plan (EMP)

Aspect	Impact	Mitigation	Indicator	Responsibility
Demarcate the construction site	Without proper demarcation, the public would be able to access the site and would be at risk.	It is of outmost importance to prevent the encroachment of construction areas into surrounding environments.	Proper fencing in place to demarcate the construction	Contractor
Stockpiling of equipment and materials	Incorrect storing of materials can result in water and soil contamination, dust and or erosion. Incorrect storage and handling of materials also poses a risk of environmental contamination and could jeopardize the safety of public / site staff.	<ul style="list-style-type: none"> Ensure that all materials and equipment handled and stored in a manner that environmental contamination and safety hazards are limited. The IPP Contractor shall be advised by the Contractor of the housekeeping arrangements including areas intended for the stockpiling of materials. Implement General Specifications as presented in this document. 	<ul style="list-style-type: none"> No public complaints or water/ soil contamination Correct handling, use and storage of materials, including hazardous materials. No incidents of Environmental contamination. No accidents or incidents related to the handling of materials. 	Contractor and ECO
Ablution facility	The lack of adequate ablution facilities and recess areas can compromise the health of site staff and result in environmental degradation.	To minimize the potential environmental impacts associated with workers on the site: Implement General Specifications	Adequate ablution facilities are in place.	Contractors and ECO
Removal of vegetation	If the removal of vegetation is done incorrectly it may leave the site prone to erosion and	To ensure that the site is not prone to erosion and any disturbed areas can be rehabilitated as necessary	Topsoil conserved in stockpiles for later use if necessary.	Contractor and ECO

	compromise rehabilitation requirements post construction.	post-construction: Implement General Specifications.		
Excavations for bulk earthworks	Created embankments (cut and fill) and retaining walls are required to level and stabilize the site. Excavations are also required to accommodate bulk services which might impact on the environment.	To limit the impact to the environment caused by excavations: Implement General Specifications	No heaps of materials left on site after the construction phase.	Contractor and ECO
Removal of equipment and temporary structures	If the construction site is not decommissioned it can result in environmental degradation	It is very imperative to leave the impacted area in an acceptable state: Implement General Specifications.	The area impacted by the construction activities pose no threat to the environment	Contractor and ECO

Table 12: Working Area Mobilization



8.5 Operations and Maintenance

The following mitigation measures should be complied with and carried out during any maintenance works associated with the services infrastructure within the planned development areas.

Aspects	Mitigation Measures
EMP Implementation	If any construction is to be conducted as part of maintenance works for the services infrastructure within the project area reference must be had to the construction mitigation measures of this EMP.
EMP and Procedures	To ensure the operation of the facility does not result in avoidable impacts on the environment, and that any impacts are anticipated and managed. The proponent must appoint a suitably qualified independent ECO to monitor compliance and compile and environmental audit report. This must be coupled to a compliance audit with the provisions contained within the EMP.
Socio-economic Impacts	To ensure the operation of the facility maximizes positive impacts on the socioeconomic environment, the following must be done: <ul style="list-style-type: none"> • Employ local labor for the operational phase, where possible, and particularly for day to day operations and maintenance. • Where possible encourage the use of local suppliers for procurement of goods, materials, and services. • Implement training and capacity building programmes to enhance the ability of local community members to take advantage of available employment opportunities.
Protection of ecology	To prevent unnecessary disturbance to natural vegetation and fauna. <ul style="list-style-type: none"> • Any alien plants within the site footprint must be immediately controlled to avoid establishment of a soil seed bank. • Control measures must follow established norms and legal limitations in terms of the method to be used and the chemical substances used. • Ensure removal and control of existing invasive alien plant species (i.e. Prosopis sp.) onsite and within the surrounding 6 m wide fire break.
Stormwater runoff, erosion, and pollution of surface water and groundwater resources.	<ul style="list-style-type: none"> • Prevent stormwater from eroding the land and becoming contaminated. • The areas likely to contribute to contaminated runoff, such as the workshop must be designed to have hardened surfaces equipped with oil and grease traps to capture any contaminated runoff. These must be maintained during operation. • Should storm water infrastructure be required, a management plan must be in place to ensure as a minimum that the structures are visually monitored after large rainfall events to ensure that eroded areas do not develop. • Any refuse generated must be disposed of in suitable bins and removed from site at regular intervals. • Ensure proper groundwater abstraction Management strategies
Visual impact	To protect the sense of place: Keep access roads clear and keep all lighting minimal, within the requirements of safety and efficiency.
Monitoring	The ECO should monitor the implementation of the Property Development EMP: before, during and after construction.

Table 12: HSES mitigation measures during operation and maintenance

8.6 Complete Closure/Decommissioning

In terms of the Environmental Management Act, it is necessary to consider the environmental impacts of decommissioning of any development, however, //Aiha Service Station is expected to be operational for a period of 25 years or more. Thereafter, the service station facility could either be decommissioned or upgraded, depending on the feasibility.

According to Namibian Legislation, decommissioning is considered as a separate activity which should be dealt with on its own. This EMA requires the EIA to make recommendations that should be considered in the new EIA process prior to decommissioning. However, seeing the decommissioning phase is far in the future, these conditions are subject to change.

A decommission plan will address the removal of the main infrastructure associated with the service station such as fuel tanks and infrastructure. Such a plan must also address aspects such as monitoring and management of surface of surface water flows and erosion.

The following mitigation measures are recommended from an ecological point as part of the closure phase:

- Rehabilitate all areas impacted on by the infrastructure
- Remove all construction waste; rip temporary tracks, if feasible, and replace the topsoil.
- Re-introduce indigenous vegetation (especially protected species) should form part of the rehabilitation process.

In terms of socio-economic impacts, the following mitigation measures are recommended:

- Maximize the use of local labor on decommissioning activities.
- Provide adequate notification to staff and other stakeholders of the pending decommissioning.
- Provide staff with references so that they can pursue work with other companies.
- If feasible, assist staff in finding employment at other operations.

The Gaoxa Trading Cc will develop a closure plan to be updated annually commencing at least 10 years prior to the envisaged decommissioning. The closure plan will identify the targets and objectives for closure and will be important in allowing operations to work toward closure objectives. Gaoxa Trading Cc will employ and commission specialist inputs from time to time to provide direction on the closure plan to ensure the end result is as closely aligned with prevailing best practice as is possible, thereby minimizing the risk and potential costs associated with decommissioning phase. The various stakeholders will also be engaged as early in the closure planning process to ensure their interests are known and catered for from the point of origin. The construction phase EMP will be used as a guideline to facilitate the detailed decommissioning phase EMP.

9. Conclusion and recommendations

The Environmental Management Plan will be used as an on-site tool during all phases of the development. Monitoring of water pollution will be conducted every quarter month of the year.

Future environmental audits will be carried out to ensure compliance to the EMP and environmental regulations of Namibia. Parties responsible for non-conformances of the EMP will be held responsible for any rehabilitation that may need to be undertaken.

The environmental clearance is valid for 3 years only, as per the environmental management act No.7 of 2007, thus it is the responsibility of Gaoxa Trading Cc to commission an application for renewal of the permit by submitting an updated ESA/EMP document before it expires.

9.1 Conclusions

The construction of //Aiha service station at Tsumkwe settlement will have positive residual environmental impacts. The EIA study findings showed negative environmental impacts to the environment to varying degrees depending on the nature of the activity and impacts arising thereof; and it also shows positive impacts especially in terms of socio-economic aspects. The management and corrective measures to address the negative HSES impacts were formulated and implementation timelines proposed depending on the gravity of threat to human life and the environment.

The identified impacts, mitigation and monitoring activities, indicators, responsible parties and monitoring frequency are indicated in the EMP. The EMP will now form the obligatory conditions upon which the EIA clearance certificates will be issued, and non-compliance attracts prosecution. The EMP should be implemented throughout the project lifecycle and an Environmental Management System formulated and implemented based on the EIA study findings. Environmental monitoring and performance evaluations will be conducted and targets for environmental improvement set and monitored throughout the project lifespan. It is also our determination that the findings will be incorporated earlier and sound HSES policies and supportive programmes will be implemented.

9.2 Recommendations

Recommendations are developed to provide guidance to Gaoxa Trading Cc on key activities that will be done to effectively manage safety, health and environment. HSES policies will be developed based on the study findings and use impacts evaluation to formulate the objectives.

- Develop and implement Environmental Management Systems.
- Develop an occupational health and safety plan.
- Adhere to the environmental management obligations upon which the EIA clearance certificate will be issued by the MET: DEA.
- The EIA clearance will not exempt the Gaoxa Trading Cc from obtaining other relevant permits and should do as such:
 - o Permit to remove Mopani trees on a portion of the project site.
 - o Access roads etc.
- The HSES policies will provide relevant training to capacitate the workers with knowledge and skills to manage safety, health and the environment.

10. References

1. Climate data weather of Tsumkwe, www.climate-data.org, accessed 8 March 2021.
2. De Vries, J.J., Selaolo, E.T., & Beekman, H.E (2000). Groundwater recharge in the Kalahari, with reference to paleo-hydrologic conditions. *Journal of Hydrology* 238 (2000) 110–123. Elsevier. Namibia. Windhoek: Gamsberg Macmillan Publishers.
3. DEAT (2006) Guideline 4: Public Participation in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria.
4. DEAT (2006) Guideline 5: Assessment of Alternatives and Impacts in support of the Environmental Impact Assessment Regulations, 2006. Integrated Environmental Management Guideline Series, Department of Environmental Affairs and Tourism (DEAT), Pretoria.
5. Digital Atlas of Namibia Unpublished Report. Ministry of Environment & Tourism.
6. Directorate of Environmental Affairs, 2008. Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plans (EMP), Directorate of Environmental Affairs, Ministry of Environment and Tourism, Windhoek.
7. Geological Survey, 1980, South West Africa/Namibia geological map 1:1000000, Geological Survey of the Republic of South Africa and South West Africa/Namibia, Windhoek.
8. King, L.C., 1963, South African scenery, Hafner Publishing Company, New York.
9. Klock, H., Christoph, K., & Peter U (2001). Estimating recharge values using hydrochemical and geological data: a case study from the semiarid Kalahari catchment of northern Namibia. *Impact of Human Activity on Groundwater Dynamics*. Pp 25-31.
10. Leser, H., 1972, 'Geoökologische Verhältnisse der Pflanzengesellschaften in den Savannen des Sandveldes um den Schwarzen Nossob und Epukiro [Geo-ecological relationships of different plant communities in the sandveld savannas at the Black Nossob and Epukiro]', *Dinteria* 6, 1–44.
11. Mandelsohn J., Jarvis A., Roberts C. And Robertson T. (2003), Atlas of Namibia, Ministry of Environment and Tourism, David Phillip Publishers, South Africa.
12. Mendelsohn, J. & El Obeid, S., 2003, Sand and water. A profile of the Kavango region, Struik Publishers, Cape Town.
13. Mendelsohn, J., Jarvis, A., Roberts, C. & Robertson, T., 2009. Atlas of Namibia. 3rd ed. Cape Town: Sunbird Publishers. Ramsar Convention on Wetlands, 2012.
14. Mendelsohn, J.M. & El Obeid, S., 2002, Communal lands of eastern Namibia, RAISON and NNF, Windhoek.
15. Meteoblue. (2018, July). Meteoblue/Archive/Climate. Retrieved from <https://www.meteoblue.com/en/weather/forecast/modelclimate/-24.8436N16.9806E> <https://en.climate-data.org/location/169737/> accessed 11 March 2021

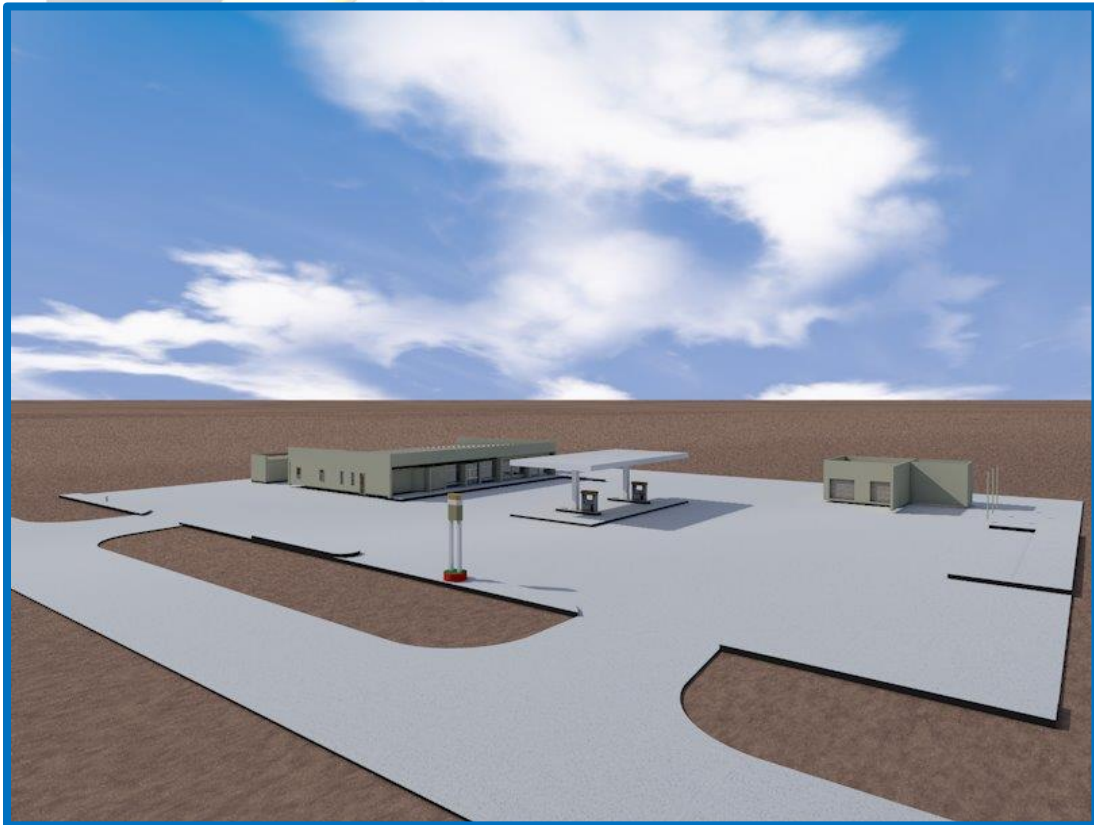
16. Meteorological Services Department; Climate Data.
17. Miller R.McG. (2008). Geology of Namibia.
18. Miller, R.2008. The Geology of Namibia, Volume 2. Neoproterozoic to Lower Palaeozoic, Ministry of Mines and Energy Geological Survey.
19. Namibia Statistics Agency. Namibia 2011 Population and Housing Census Main Report.
20. Namibia Statistics Agency. Namibia household Income and Expenditure Survey 2009/2010.
21. Nickel Development Institute.<http://www.nickelinstitute.org/~Media/Files/TechnicalLiterature/>
22. Pastakia, C.M.R.; 1998; The Rapid Impact Assessment Matrix (RIAM) – A new tool for Environmental Impact Assessment.
23. StainlessSteelsinABC_GuidelinesforCorrosionPrevention_11024_.pdf Accessed 13 August 2019.
24. Strohbach, B.J., Strohbach, M., Kutuahuripa, J.T. & Mouton, H.D., 2004, 'A reconnaissance survey of the landscapes, soils and vegetation of the eastern communal areas (Otjjozondjupa and Omaheke regions), Namibia', unpublished report for the Desert Research Foundation of Namibia and the Desert Margins Programme, National Botanical Research Institute, Windhoek.
25. The Southern African Institute for Environmental Assessment, (2006) Authors (Brownlie S., Walmsley B. and P. Tarr): Guidance document on Biodiversity, Impact Assessment and Decision Making in Southern Africa. CBBIA – IAIA
26. Thomas, D.S.G., 1988, 'The nature and depositional setting of arid and semi-arid Kalahari sediments, southern Africa', Journal of Applied Ecology 14, 17–26.

Annexure 1: Background Information Document

**BACKGROUND INFORMATION DOCUMENT AND
INTERESTED & AFFECTED PARTIES:**

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) FOR THE
CONSTRUCTION OF //AIHA SERVICE STATION ON ERF 5,
WEST OF TSUMKWE SETTLEMENT, ALONGSIDE C44 MAIN ROAD,
OTJOZONDJUPA REGION.

FOR



Prepared by:
Julius Antonius
SAIOSH 57955681

05 May 2020

PURPOSE OF THE DOCUMENT AND CONTENTS

The purpose of the Background Information Document (BID) is to provide stakeholders with the opportunity to register as Interested and Affected Parties (I&APs) in the scoping exercise for the Environmental Impact Assessment (EIA) study, for the construction of a service station on Erf 5, Alongside C44 main road, West of Tsumkwe settlement, in Otjozondjupa region by Gaoxa Trading cc. This document highlights the process that will be followed and to obtain comments on the proposed project. It further provides information on the benefits of the proposed project, potential impacts of the project and proposed environmental studies required and how you will be involved in the project by raising concerns and sharing of information which may be of interest to the community of Tsumkwe and other affected stakeholders. This is the core of public participation during the EIA process. Information sharing is the cornerstone of successful public participation and your inputs will support and ensure that all potential subjects are taken into consideration before critical decisions are made.

1. PROJECT DESCRIPTION

The applicant, Gaoxa Trading cc is scheduling to set up a service station on Erf 5, alongside C44 main road, West of Tsumkwe Settlement, Otjozondjupa Region. The proposed service station is to be named //AIHA Service Station. //Aiha is derived from a San language meaning “Chief” in Ju/'hoansi dialect, a symbol of forte in many African tribes. The construction of a service station is a listed activity, that requires an authorization and an environmental clearance certificate should be issued before construction begins. It is against this background that Mr. Julius Antonius was appointed and contracted by Gaoxa Trading cc to conduct the EIA study as required under the Environmental Management Act (2007).

1.1.1 Site Location

The project is located on erf 5, alongside C44 main road, West of Tsumkwe Settlement, in Otjozondjupa Region. The site measures 13 255 m² without improvements, and has the following GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S. The erf is owned by Mr. Mutji Petrus and Mr. Mutji Sondaha (brothers), who are also the sole owners of Gaoxa Trading cc, the proponents of the project. Figure 1 shows the site location in relation to the town of Tsumkwe and relation to potential competitors and target markets.

The site is located about 480 meters away from the central business units, when entering the settlement on the C44 gravel road, approaching the village center with main activities with low income areas of Tsumkwe, the site is located distance meters away from the main shopping centers and fuel stations (potential competitors).

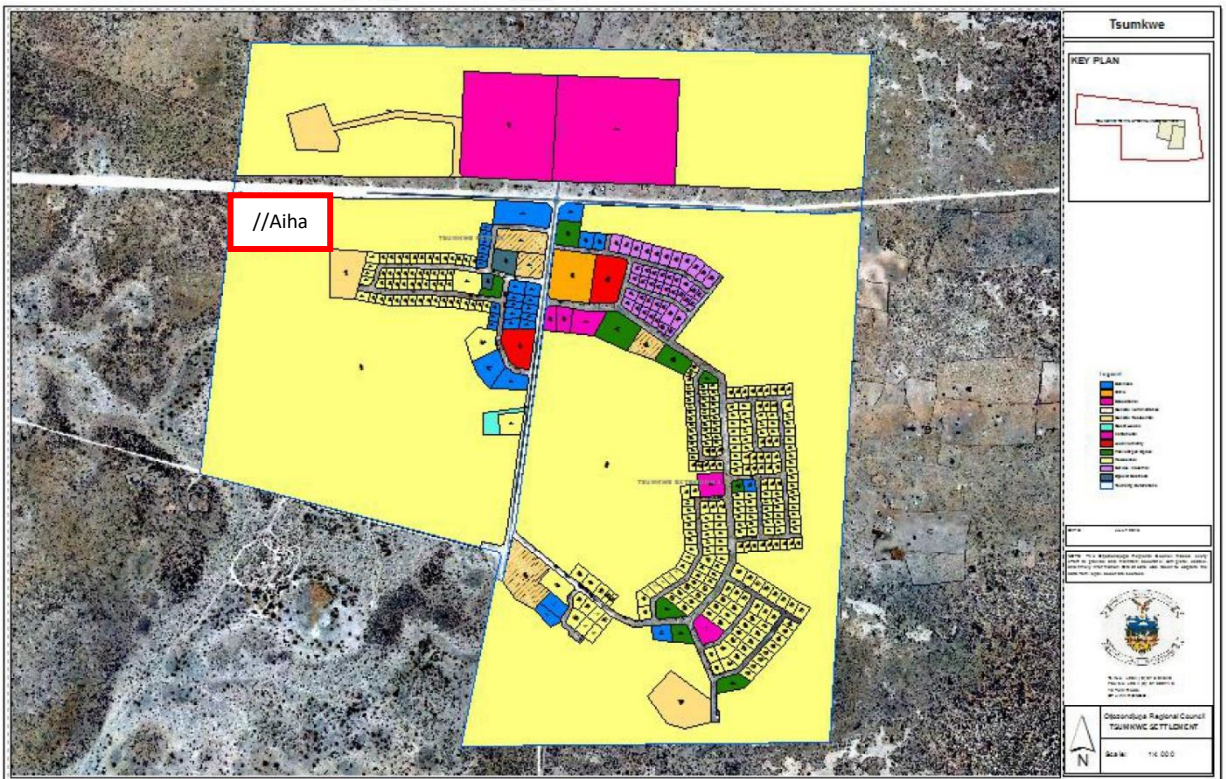
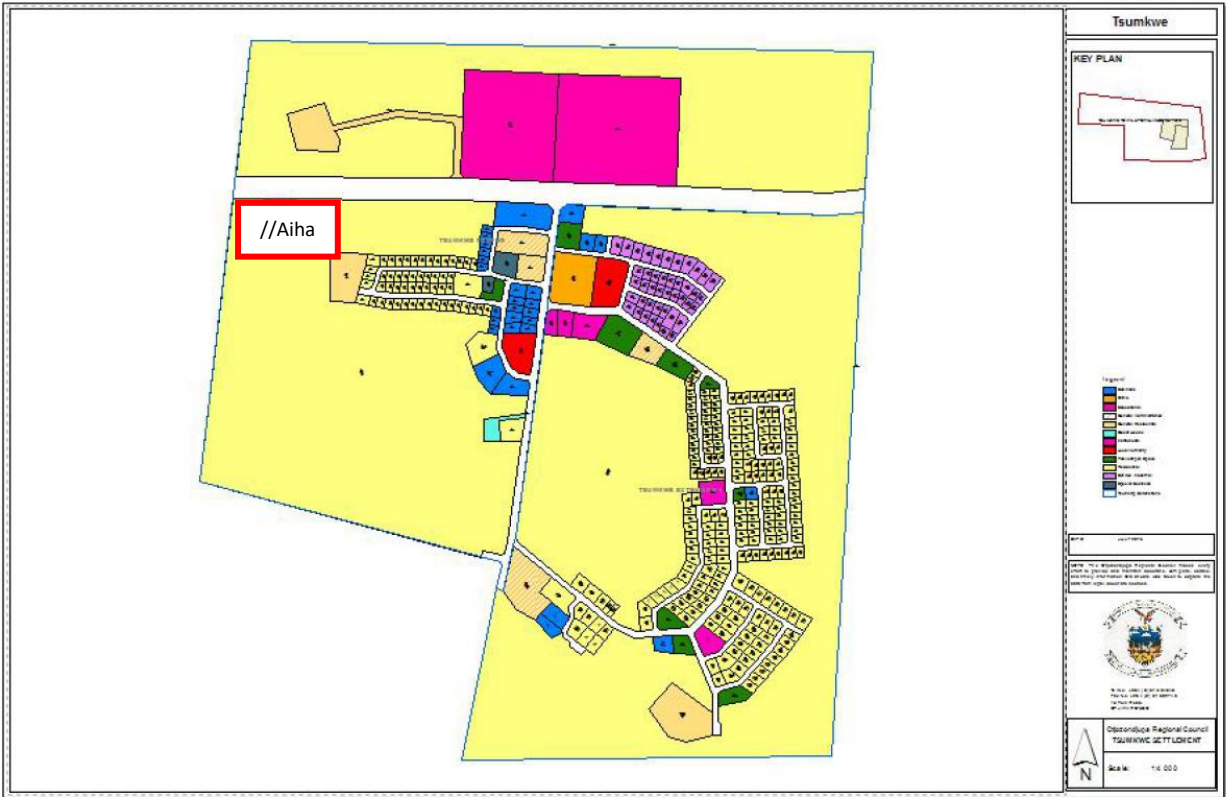




Figure 1: Project/Site location within Tsumkwe Village Council

1.1.2 Proposed Concept and Technology

//Aiha Service Station is envisaged to be a standard service station, with two islands stations, two dispensing fuel pumps (petrol and diesel) from a storage of two double wall underground storage tanks of 30 000 liters. The service station will be part of a larger development, which is an average shopping complex with various service offerings including: A butchery, Express market, Tyre servicing center, toilets and Coffee shop.

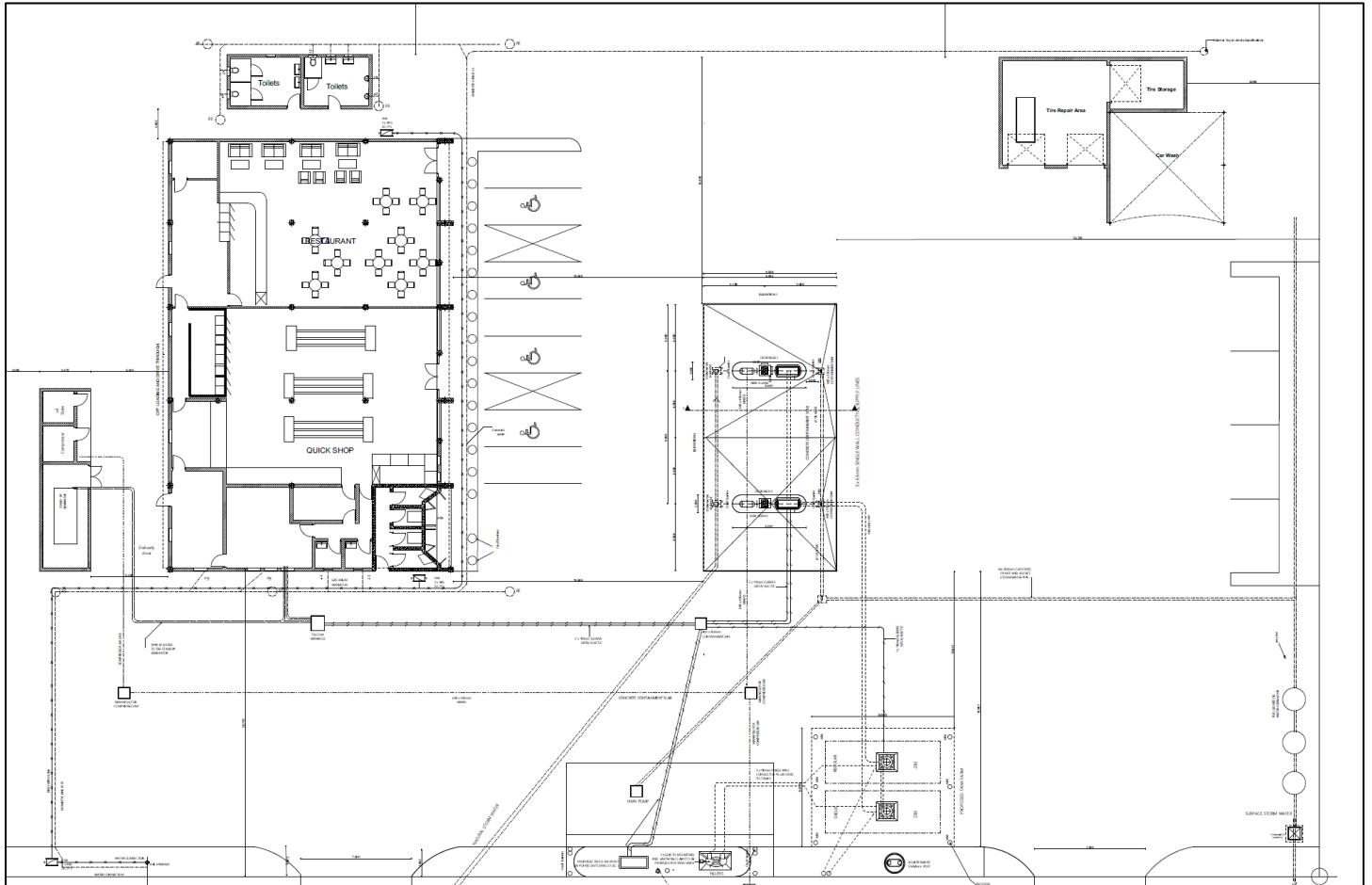


Figure 2: Concept Design for //Aiha Service Station

The technical details of the site are as follow:

- ERF No: 5, Alongside C44 main road, West of Tsumkwe Settlement, Otjozondjupa Region, Namibia
- Site Area: 13 255 m²
- Site shape: Stretched Rectangle
- Site Configuration: West to East (Long axis)
- Topography: Generally flat
- Zoning type: Business
- Permissible Coverage: 60%
- Bulk factor: 1.0
- Maximum permissible Density: 1 shop/ 100m²
- Maximum Permissible height: 8 meters
- Parking Arrangement: 30 Light Duty Vehicles

1.2 Ownership and Operation

//Aiha Service Station will be owned and operated by Gaoxa Trading cc. Gaoxa Trading is 100 percent Namibian; owned by previously disadvantaged Namibians and thus BEE compliant. //Aiha service station will be branded from either of the local oil franchises in Namibia, when an agreement is entered into and finalized. The service station will have two islands and two dispensing pumps, and two 30 000 liters underground tank of petrol and diesel. Financing option for the service station is still under consideration, of which will cover the entire project in full. Additional services at the service station include a 24-hour convenient store (part of express market), A butchery, Automatic Teller Machines (ATMs) and oil changing facilities, tyre repair and servicing, which are all supported by 24-hour security system.

1.3 Keys to Success

Our keys to success:

- Excellent product and service that will build and maintain customer loyalty.
- A business location that will assure high trade visibility and a high flow of customers.
- Our commitment to continuous improvement and total quality services.
- A trading area easily accessible for cars and pedestrians.
- Quality convenient store products produced quickly and efficiently.
- Partnership with reputable brands and operators.

1.4 Economic and Environmental Benefits

//Aiha Service Station will provide numerous economic and environmental benefits to residents of Tsumkwe Settlement as follows:

- Economic opportunities to a range of operators and entrepreneurs.
- Properly structured to provide communities with an opportunity to purchase good quality products and accessibility to primary services under one shelter.
- Adding value to the town by having a modern service station complex in the heart of the settlement.
- Enhance the attraction of local and foreign visitors and develop tourism in the town.
- Generation of additional income to the low-income area of Tsumkwe Settlement.
- Ultimately enhance the quality of the living status of people in the area.

2. DESCRIPTION OF THE ENVIRONMENT

2.1. General Environmental Setting

The site is in Tsumkwe Settlement, the Western portion of the settlement. The area is characterized by residential houses and light industrial business.

2.1.1 Accessibility

The proposed project site is accessible using the C44 main road from either west or east of the settlement. The main road that proceeds to Grootfontein.

2.1.2 Potential Challenge

The Environmental Impact Assessment study will investigate the suitability of the proposed site in relation to the existing land-uses, taking into consideration the environmental impacts and aspects.

2.2 The need for the project

The benefits of developing a service station on erf 5, Tsumkwe includes:

- Employment creation and thus improvement to the well-being of the local people.
- A service station will be an economic investment as the need for fuel increase with the population increase and associated daily commute of the community/residents.

3. PROPOSED STUDIES

A baseline environmental study will be done covering the following facets:

3.1 Biodiversity Scoping study

Tsumkwe is situated about 60 km west of the Botswana border and 300 km east of Grootfontein in the Otjozondjupa Region. Tsumkwe is a small town with about 700 inhabitants and it is administrative centre for the Tsumkwe district in which 9,000 people live, of which about 2,400 are San. Tsumkwe exhibits notable vegetation and wildlife. Particularly within the Khaudom Game Reserve (Kaudwane in Tswana), lions, cheetahs, hyenas and other large mammals can be found. The scorched conditions are a result of dry descending air and of the dry vegetation. The site is located within an urban setting where any fauna and flora are expected to be fragment and thus degrade. There is no visible fauna, however flora is present at the site.

3.2 Culture and Heritage Scoping

A culture and heritage scoping will be done, to investigate the occurrence and significance of historical heritage sites such as crypts.

3.3 Assessment of Alternatives

The “no-go” option means maintaining the status quo. This option will be explored to assess the implications of not implementing the project.

4. THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

An EIA is the process of identifying, predicting, evaluating, and mitigating the biophysical, social, health and other relevant effects of development projects prior to major decisions being taken and commitments made. The objectives of the EIA will thus be to:

- Provide with adequate information to understand the potential environmental and socio-economic impacts of the proposed project and opportunities to comment on the project and the processes.
- Provide information that will assist the consultants to incorporate effective mitigatory measures into the design and implementation of the project.
- Provide the regulatory authorities with plentiful information to serve as a basis for sound decision making.

4.1 Project elements to be covered by the EMP

The EIA will cover the following elements in the Environmental Management Plan:

- Construction,
- Operation and
- Decommissioning of the service station (closure).

4.2 Scope of Work

The Environmental Impact Assessment scope will focus on the issues related to flora with respect to land clearing, waste management (solid and liquid), operation and management of the solar facility, sites of cultural significance and policy and legislation review.

The EIA will be done in two phases (See Figure 3 below).

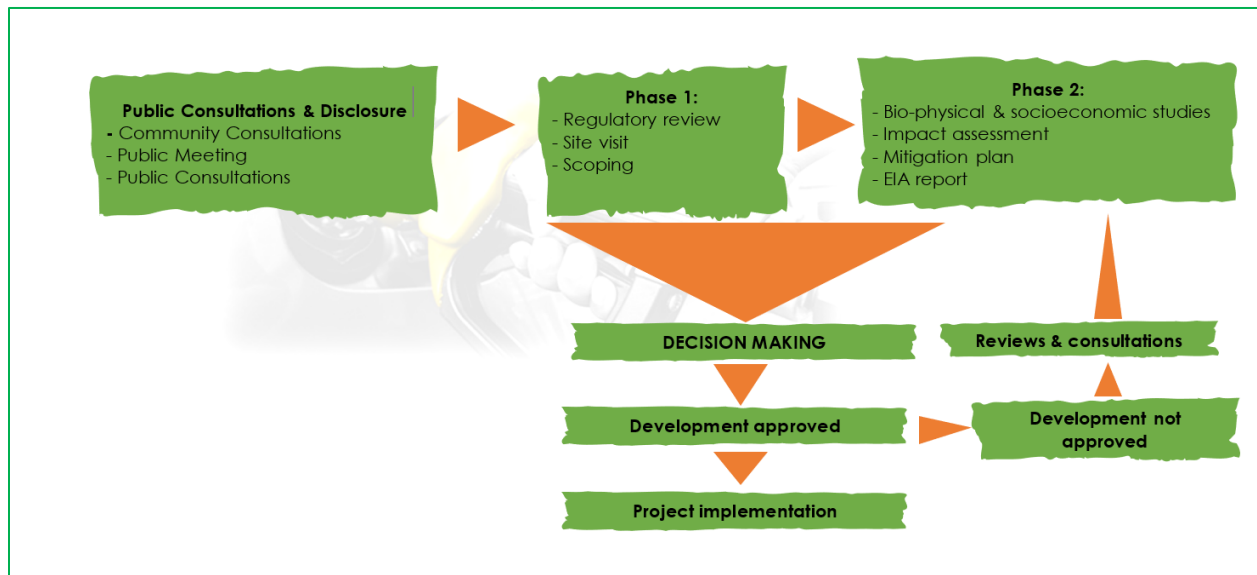


Figure 3: EIA Process flow

4.2.1 PHASE 1 – SCOPING

It is a formal requirement during the EIA process to carry out a scoping study and this is in line with the Namibian Environmental Management Act (2007). The purpose of this study is to direct the assessment on key issues and eliminate those that do not require detailed intensive studies. The following scoping activities will be conducted:

- Consultations with key stakeholders, government departments etc.
- Advertising and carrying out public meetings.
- Distribution of project information to the public.
- Producing a draft scoping report.
- Gathering public comments on draft scoping report.
- Submission of final scoping report to Ministry of Environment & Tourism.

4.2.2 PHASE 2: SPECIALIST STUDIES

Subjects raised during the scoping study will be used to develop terms of reference for specialist studies. Results from the specialist studies will be incorporated in the EIA report.

4.4 Draft EIA Report

The draft EIA report will echo all the identified subjects, mitigation measures and the proposed environmental management plan. The draft EIA document will be made available to the public for comments on issues of interest.

4.5 Legal Framework

The Namibian Government gazetted the Environmental Management Act in 2007 and is supported by a set of guidelines and regulations. The EIA process will follow the EIA Policy and the Environmental Management Act & its regulations. The EIA will also take cognizance of applicable international standards and guidelines, conventions and treaties.

5. PUBLIC CONSULTATION AND DISCLOSURE PLAN

According to the Environmental Management Act (2007), public participation forms an integral part of the EIA process. Adequate public consultation is important to identify issues relevant to the project, evaluating their significance and deciding measures to mitigate these impacts. A public consultation plan has been developed in line with the Environmental Management Act (2007) and seeks to achieve the following objectives:

- To ensure all stakeholders are included in the consultation and disclosure process.
- To ensure initial information disclosure about the project is appropriate and understandable to the non-technical stakeholders and the local population.
- To ensure that adequate and timely information is provided to the public.
- To ensure that all stakeholders are given plentiful opportunity to express their issues, concerns and opinions.
- To ensure regular feedback is given to the public and the community.
- To ensure that effective communication will continue during the construction and operational phases of the project.

5.1. Required involvement:

- Attend public meetings that will be advertised in the local media.
- Contact the EIA consultants for further information.
- Review the draft reports when invited (within the timeframes provided).

Ensure that you are registered on the project database by providing your contact details to the EIA Consultants. Registration will ensure receiving of on-going communications about the EIA process, meeting invitations, project updates and invitations to review the draft reports.

Annexure 2: List of Interested and Affected Parties
Notified and affected parties

No.	Name & Surname	Organisation
1	ISRAEL	MAWF -FORESTRY
2	MR.N MUSHONGO	Ministry of Environment Forestry and Tourism
3	J MVULA	Ministry of Works and Transport
4	MRS. GOLDINE KATUROTA	Ministry of Works and Transport
5	MR. W. KUDUMO	CLDC – Ministry of Education Arts and Culture
6	MR. V. INDONGO	Ministry of Education Arts and Culture
7	MR. B.T.KAUMBUNGU	Ministry of Education Arts and Culture
8	MR. I KASHOKULU	Ministry of Safety and Security
9	METUAPI KAMUARUUMA	Ministry of Health and Social Service
10	MR. B.KUHANGA	Ministry of Gender
11	MR. G.GOMME	Ministry of Youth, Sport National Service
12	MR.H.GCAO	Ministry of Home Affairs and Immigration
13	L.MAUTJETJEJA	Ministry of Justice
14	MR. CHIEF T. #OMA	Traditional Authority
15	FRIEDA UBU-KHAES	Community member
16	MR. J. NGANJONE	Community member
17	HON J.HAUSIKU	Tsumkwe Constituency Councillor
18	MRS. R HAMUKOTO	Otjozondjupa Regional Council
19	MR. E.HEINRICH	Nyae Nyae Conservancy
20	MR. G.HIPUNDILWA	Nyae Nyae Development Foundation
21	MR. J.ITEMBA	CENORED
22	MR. ALEX UAZENGIZA	Businessman
23	MR. LEON OMA TSAMKGAO	TUSCIN representative
24	LIKORO N. MASHESHE	Otjozondjupa Regional Council
25	CWISA CWI	Ministry of Education Arts and Culture
26	TATE MUSHUNGE	Businessman
27	MR.PIET	Namwater
28	MRS.S. MUHOMEKI	Community member
29	MS. RAFILIA RENATHE SWARTBOOI	Community member
30	MR.N!AICI TSA`QAN	Community member

1.To office of the Regional Governor,Hon.James U.Uerikua

PA to the Regional Governor: Mr. William Viore < wviore@otjozondjuparc.gov.na

2. To the Chairperson Management Committee of Otjozondjupa Regional Council

Mrs.Marlayn Mbakera mmbakera@otjozondjuparc.gov.na

3.To the office of the Chief Regional Officer

Mrs. Agatha Mweti, dmakgone@otjozondjuparc.gov.na

4.To the office the Deputy Director: Administration

Mrs. Salome Tuahuku

stuahuku@otjozondjuparc.gov.na

Annexure 3: Public Participation and attendance register

COMMUNITY PARTICIPATION

Interested and Affected Parties (IAP)

Environmental Scoping Assessment and Environmental Management Plan //Aiha service station, Tsumkwe Settlement, Otjozondjupa Region.

Gaoxa Trading cc plans to construct and operate of a service station in Tsumkwe Settlement. The construction, operations and decommissioning activities of the project (i.e. energy generation and distribution activities) requires compliance with the Environmental Impact Assessment (EIA) Regulations of 6 February 2012 (EIA Regulations) as promulgated in the Government Notice No 28, 29 and 30, circulated in terms of the Environmental Management Act (EMA), Act no. 7 of 2007.

Community Participation: Environmental Scoping Assessment and Environmental Management Plan for the Operational Activities of //Aiha service station, Tsumkwe.

Proponent : Gaoxa Trading CC
Date : 20 March 2021
Venue : Tsumkwe Community Hall
Time : 14:00pm – 16:00pm

The project is located erf 5, alongside C44 main road, West of Tsumkwe Settlement, in Otjozondjupa Region. The site measures 13 255 m² without improvements, and has the following GPS coordinates: 20°30' 4.869" E 19°35' 27.594" S. The erf is owned Gaoxa Trading cc, the proponent of the project.

All Interested and/or Affected Parties (IAPs) are invited to register with the environmental consultant to receive further documentation and communication regarding the project. By registering, IAPs will be provided with an opportunity to provide input that will be considered in the drafting of the environmental assessment report and its associated management plan.

Please register as an IAP and provide comments by **19th March 2021**, please contact: Julius Antonius on Email: seanton.investmentcc@gmail.com
Mobile: +264 (0) 85 744 11 44



COMMUNITY PARTICIPATION

Kare kota G!a'ama parties

*Kxa|ho Oosi se ce kota Kxa|ho N#ai n#haoha #Angasi ko //Aiha //koa|hosi, Tjum!kui
Kxa|ho, Otjzontjupa Region.*

Gaoxa n#ai //Amasi cc #'anga koh kuru kota !'oahn ko //koa|hosi ko Tjum!kui kxa|ho (te ka o projeka. Ka kuru, !'oahn kota //koa tcia sa o projeka gasi (I'an glaoh ko ju kota ku tani //koa tciasi) ku tani !'ua ko Kxa|ho N#ai n#haoha Oosi-n!ang se ce (EIA) Vetasi ko 6 February 2022 (EIA Vetasi) ko ua gla'a-n!ang ko Xoromente #xanu No 28,29 kota 30, ko kuri ko barah n!ang ko Kxa|ho N#ai n#haoha Act (Act (EMA), Act no: 7 ko 2007.

Community Participation: Environmental Scoping Assessment and Environmental Management Plan for the Operational Activities of //Aiha service station, Tsumkwe.

Proponent : Gaoxa Trading CC
Date : 20 March 2021
Venue : Tsumkwe Community Hall
Time : 14:00pm – 16:00pm

Te projeka n|hui gesi sa o 5, gea !an ko C44 dao n!a'an, //hanga tzi ko Tjum!kui Kxa|ho, ko Otjzondjupa Region. Ka n!aesi o 13 255 m² koh !oa zaihan ka !'ae, ko u //xam ko GPS nomarasi: 20°30' 4.869" E 19°35' 27.594" S. Te gesi kxao o Mr. Mutji Petrus kota Mr. Mutji Sondaha (ha !o), o jua koh cete o n#ai //ama kxao ko Gaoxa n#ai //Amasi cc, te n!un !'an projeka.

Ju waqn sa ku Kare kota/ kana G!a'ama Parties (IAPs) koh n#ai !'han ko !ore!'u ko kxa|ho !'uian ko ho #xanu n!a'an ko gla'a-n!ang kota n#oahn //kae ko projeka. Ko !ore!'u, IAP xoana du !'an a ko n#aa ko !'u #xanu he ku zaihan hi !'ae he o kxa|ho se ce //akaa #xanua kota oosi //akaa n#ai n#haoha #'anga.

!Xom n!ang !ore!'u a !'ae ko IAP ko !'an tsitsa'asi ko //ama 19th March 2021 !ore!'u, !xom n!ang n#oahn !xoa: Julius Antonius Email: seanton.investmentcc@gmail.com
Mobile: +264 (0) 85 744 11 44





PO. Box 8857 Bachbrecht Windhoek @seanton.investmentccc@gmail.com

ATTENDANCE REGISTER

Please complete attendance as an Interested and Affected Party (I&AP) to confirm your attendance for the EIA process of the proposed project.

NAME(S)	CAPACITY	SIGNATURE
1. Andreas Beata	Teacher (TSS)	A.B
2. Julius Antonius	Facilitator	[Signature]
3. Felipe	Former	[Signature]
4. Georgina Nganjoro	Youth	[Signature]
5. Ruantha R. C. Switlana		[Signature]
6. Kudum Cance	OTRC	[Signature]
7. Kuziwa N&M	MGEPE SW	[Signature]
8. Frieda Ubuqhges	C.L.M.	[Signature]
9. Mkwilapopi Likius Festus	Community member	[Signature]
10. Anna Indy.	MCIEP	[Signature]
11. Pumuse Kahaka	Farmer	[Signature]
12. Mbambi	Shikema	[Signature]
13. Chief Bobo Nenkpa	TA	[Signature]
14. Kamahizulu Vincina	youth	[Signature]
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Session facilitated by:

Mr. Julius Antonius

EIA Practitioner (Grad SAIOSH **57955681**)

Cell: 0857441144

P.O. Box. 8857 Bachbrecht, Windhoek, Namibia

E-mail: seanton.investmentcc@gmail.com

Annexure 4: Comments and concerns



P.O. Box 8857 Bachbrecht Windhoek @seanton.investmentcc@gmail.com

REGISTRATION AND COMMENT FORM

Please register me as an Interested and Affected Party (I&AP) to receive ongoing communication about the EIA process and the proposed project.

Name: Chief Bob Temkgaw	Telephone:
Organization: FA	Fax:
Designation: Chief	E-mail:
Address: P/BA9 2070 Grootfontein	
Comments and issues of concern:	
I am glad of the Project and I am happy with it that's development of Tsumicure and that I am also happy be once our people are going to get job to save their families.	

Submit registration and comments to:
Mr. Julius Antonius
EIA Practitioner (Grad SAIOSH 57955681)
Cell: 0818778855
P.O. Box. 8857 Bachbrecht, Windhoek, Namibia
E-mail: seanton.investmentcc@gmail.com



REGISTRATION AND COMMENT FORM

Please register me as an Interested and Affected Party (I&AP) to receive ongoing communication about the EIA process and the proposed project.

Name: BEATA N ANDREAS	Telephone: 067 244 003/4
Organization: MINISTRY OF EDUCATION	Fax: 067 244 147
Designation: TEACHER	E-mail: N/A
Address: TSOMKWE SS	
Comments and issues of concern:	
Thank you very much for the project. It will really benefit our settlement. We are in a remote area and we will really appreciate all the services.	

Submit registration and comments to:

Mr. Julius Antonius
EIA Practitioner (Grad SAIOSH **57955681**)
Cell: 0818778855
P.O. Box. 8857 Bachbrecht, Windhoek, Namibia
E-mail: seanton.investmentcc@gmail.com

REGISTRATION AND COMMENT FORM

Please register me as an Interested and Affected Party (I&AP) to receive ongoing communication about the EIA process and the proposed project.

Name: Renathe R. Swartbooi	Telephone: 0812484097
Organization: Swapo mobilizer	Fax:
Designation:	E-mail:
Address: P.O. Box 950	
Grootfontein	
Comments and issues of concern:	
① Thanks for the project but how will we going to benefited, want you got through.	
② and Are you come back and let us know, that happen.	
③ When of how long will it take from now.	
④ Don't make promises. we want development and our people need work.	

Submit registration and comments to:

Mr. Julius Antonius
 EIA Practitioner (Grad SAIOSH **57955681**)
 Cell: 0818778855
 P.O. Box. 8857 Bachbrecht, Windhoek, Namibia
 E-mail: seanton.investmentcc@gmail.com

REGISTRATION AND COMMENT FORM

Please register me as an Interested and Affected Party (I&AP) to receive ongoing communication about the EIA process and the proposed project.

Name: Anna T Jindji	Telephone: 067-244054 / 0814796622
Organization: Ministry of Gender	Fax:
Designation: Tsumikwe	E-mail: jindjiannatlia@gmail.com
Address: Grootfontein	
Comments and issues of concern:	
<p>My Comment is on the benefit that the settlement will experience, I don't have a concern much on the disadvantages the construction of this service station will bring. Since I understand everything have advantages and disadvantages and even in this case advantages are much more and great than disadvantages.</p> <p>Just to try minimize and control the effect. It was a blessing and professional presentation. Thanks a lot.</p>	

Submit registration and comments to:

Mr. Julius Antonius
 EIA Practitioner (Grad SAIOSH 57955681)
 Cell: 0818778855
 P.O. Box. 8857 Bachbrecht, Windhoek, Namibia
 E-mail: seanton.investmentcc@gmail.com

REGISTRATION AND COMMENT FORM

Please register me as an Interested and Affected Party (I&AP) to receive ongoing communication about the EIA process and the proposed project.

Name: Felipe Adria's	Telephone: 0812860827
Organization: Community me	Fax:
Designation:	E-mail: N/A
Address: Tsumkane	
Comments and issues of concern:	
It is a very nice idea / plan	
we are very happy for that	
we need development	
Thanks	

Submit registration and comments to:
 Mr. Julius Antonius
 EIA Practitioner (Grad SAIOSH **57955681**)
 Cell: 0818778855
 P.O. Box. 8857 Bachbrecht, Windhoek, Namibia
 E-mail: seanton.investmentcc@gmail.com

Annexure 5: Media Advertisement

Health

- Health education
- Nutrition
- Diseases and disorders
- Health policy

Erongo lockdown not needed

By Maria Kandjunga

THE executive director in the Ministry of Health and Social Services Ben Nangombe says they do not foresee the imminent closure or lockdown of Erongo region at the moment as the situation at hand does not necessitate it.

Nangombe was responding to questions regarding the ministry's stance on public calls to put Erongo region on a lockdown following recent reports that one of the truck drivers who tested positive for Covid-19 allegedly wandered into the community from a quarantine facility in Walvis Bay a few days before testing positive.

The driver was supposed to stay in quarantine for 14 days following his return from South Africa where he travelled with work.

Health Minister Kalushi Shingala last week released the information on Case 21 while giving an update on the Covid-19 pandemic. He said the 47-year-old male truck driver who travelled from South Africa on 8 May had gone into the community from the truck port quarantine facility with another truck driver. They were apprehended by the police and put in a supervised quarantine at the Walvis Bay hospital isolation unit. The contact tracing team from the ministry will trace the contacts today, especially



Ben Nangombe

in the community where he went," the minister said over the weekend. He added that the driver was asymptomatic and remains at the Walvis Bay isolation unit. His is the fifth confirmed positive case from among

quarantined groups of people who travelled back from South Africa. The two drivers have also since been tracked by their employer, FPD Transport, for allegedly contravening the quarantine regulations, although

the workers say they had permission from their employer to go and make arrangements at the bank for a payment holiday on the day in question after their wages were slashed in half. The truckers in question reportedly made stops at Gobabis, Windhoek, Okahandja and Erongo, before arriving in Walvis Bay on 12 May. The authorities are actively trying to trace all persons who may have come into contact with the infected driver.

Covid-19 disrupted contraceptive supply chain

ENVIRONMENTAL IMPACT ASSESSMENT

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A SERVICE STATION AT TSUMKWE SETTLEMENT, OTJOZONDJUPA REGION

Notice is hereby given to all potential Interested & Affected Parties (I&APs) that an application is made to the Environmental Commissioner in terms of the Environmental Management Act (No.7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 of 6 February 2012) for the following:

Project Name : //Aiha Service Station
Project Location : Erf 5, West of Tsumkwe Settlement, alongside C44 main road, Otjozondjupa Region.
Project Description : Service Station with two dispensing pumps for Diesel and Petrol.

Interested & Affected Parties are invited to register and submit their comments regarding this project at seanton.investmentcc@gmail.com or call 0857441144, on or before 05 June 2020. Report can be obtained from consultant.

Service you can trust

... Ministry to restock next week

By Maria Kandjunga

Ben Nangombe, the executive director of the Ministry of Health and Social Services says they expect to have contraceptives back in stock by next week. Nangombe this week

“We have placed the orders but we had an issue of delays in permits, it is what was stopping the delivery and that has been sorted out

lockdown restrictions and logistical delays caused by the response to the Covid-19, causing a shortage of contraceptives at health facilities country-wide. The ministry reportedly only has the Depo-Provera injections available, which health officials say are not ideal for use by young women who have not had children as it may affect their fertility.

Nangombe was earlier this month quoted as saying that the ministry faced a critical situation where many of the items are either in short supply or are not reaching them on time because of disruptions in logistical arrangements after the Covid-19 outbreak.

The Namibian newspaper also reported that the Namibia Planned Parenthood Association (Nappa) fears the unavailability of contraceptives and contraceptive methods in the country could see a rise in teenage pregnancies, especially at a time when schools and recreational centres for social gatherings are closed.

They said this could potentially lead to girls and young women engaging in inter-generational and transactional sexual activities to pain time.

CONFIDENTE

lifting the lid

Quotation

Company	Seanton Investment cc	Date	22.05.2020
Postal address	P.O. Box 8857 Bachrecht Windhoek		
Contact person	J. Antomas		
Phone	264 81 232 68431		
Email	jantomas@gmail.com		

Weeks	Description	Unit Price	TOTAL
Thursday 28 May 2020	Size 10mm x 2col	\$ 700.00	\$ 700.00
	Colour: Full colour		
	Rate: SME		
	Description: notice		
		Total Incl Tax	\$ 700.00

Account Name: Confidante Newspaper cc
 Bank: FNB Namibia
 Bank Code: 281872
 Account number: 62265907405
 SWIFT Code: FIRNNANX

Brigitte Pitt
 Confidante Newspaper
 Tel: 061 246 136 / 081 723 4373
brigitte@confidentenamibia.com

ENVIRONMENTAL IMPACT ASSESSMENT

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT FOR THE DEVELOPMENT OF A SERVICE STATION AT TSUMKWE SETTLEMENT, OTJOZONDJUPA REGION

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Project Description : Service Station with two dispensing pumps for Diesel and Petrol.

Interested & Affected Parties are invited to register and submit their comments regarding this project at seanton.investmentcc@gmail.com or call 0857441144, on or before 19 February 2021. Report can be obtained from consultant.

Service you can trust

THE FREE PRESS OF NAMIBIA (PTY) LTD

48, ZIJN VERTREK STREET - P.O. BOX 20769 - WINDHOEK - TEL: +264 61 279632 - FAX: +264 61 230 586

PROFORMA INVOICE / QUOTATION

TO: CASH TRANSFERS NAMIBIA	WINDHOEK	JULIUS NTINDA	AE: JULIUS	Ad Category: 7Days	Ad Category: NOTICES	Caption / Narrative: SEANTON
QUOTATION NR: CLAQ200001601	VAT Reg No: 1912599-01-05	Customer No: CA23CA823	Sales Person: NONELAO	Contact Detail: Email ID: CI / PO Number: Date: 23/05/2020	Valid Until: 27/05/2020	Classification: Classified Booking
AD Sub Category: PUBLIC						

PUBLICATION TYPE	ISSUE DATE	COLOR	SIZE	PRICE	AMOUNT
CLASSIFIED	27/05/2020	COLOR	14 x 3	79.39	3,334.38
					SUM 4,662.98
					VAT (15%) 699.45
					TO PKF / NS 5,362.43

Signature: _____ Date: _____

Please sign to accept Quotation and return together with Printing Order or Copy Instruction.

Condition of Acceptance
 Deadline for booking, payment and material is 12h00 noon - 2 days prior to Publication

Cancellation: Deadline is 18h00, 2 days prior to Publication and after deadline, subject to 100% penalty. The Namibian reserves the right to refuse the placement of any advertisement.

If paying directly into our bank account, please Fax the Tear off to the number below:

Account Name	The Free Press Of Namibia(Pty) Ltd	Quotation Nr.	CLAQ200001601
Bank	Standard Bank	Quotation Date	05/22/2020
Branch	Windhoek	Tel. No.	
Account Number	041 427 688	Amount Due	5,362.43
Branch Code	08 2372 00	Amount Paid	
Fax	26461 229206		

Account Name	The Free Press Of Namibia(Pty) Ltd	Bank Name	NEDBANK
Account Code	119900228631	Branch	Business Center
Branch Code	461617	Swift	NEDSNANX

All prices include VAT and Agency Commission

Thank you for your support

Annexure 6: Project Details (layouts and maps)

//Aiha Service Station is 100% owned and operated by Gaoxa Trading Cc.

Gaoxa trading Cc is a Namibian SME that specializes in energy development, and general retailing. “//Aiha is derived from a San language meaning “Chief” in Ju/’hoansi dialect, a symbol of forte in many African tribes.

//Aiha Service Station is 100 percent Namibian; owned and operated by previously disadvantaged Namibians. Our vision is to provide residents, visitors of the Tsumkwe area with convenient items and gasoline at competitive prices. Company policy firmly supports the delivery of quality products and superior customer service while working towards maximum profitability.

In the communities we practice, we strive to return to society what we earn, to benefit the communities wherein we work, and to be socially and environmentally responsible.

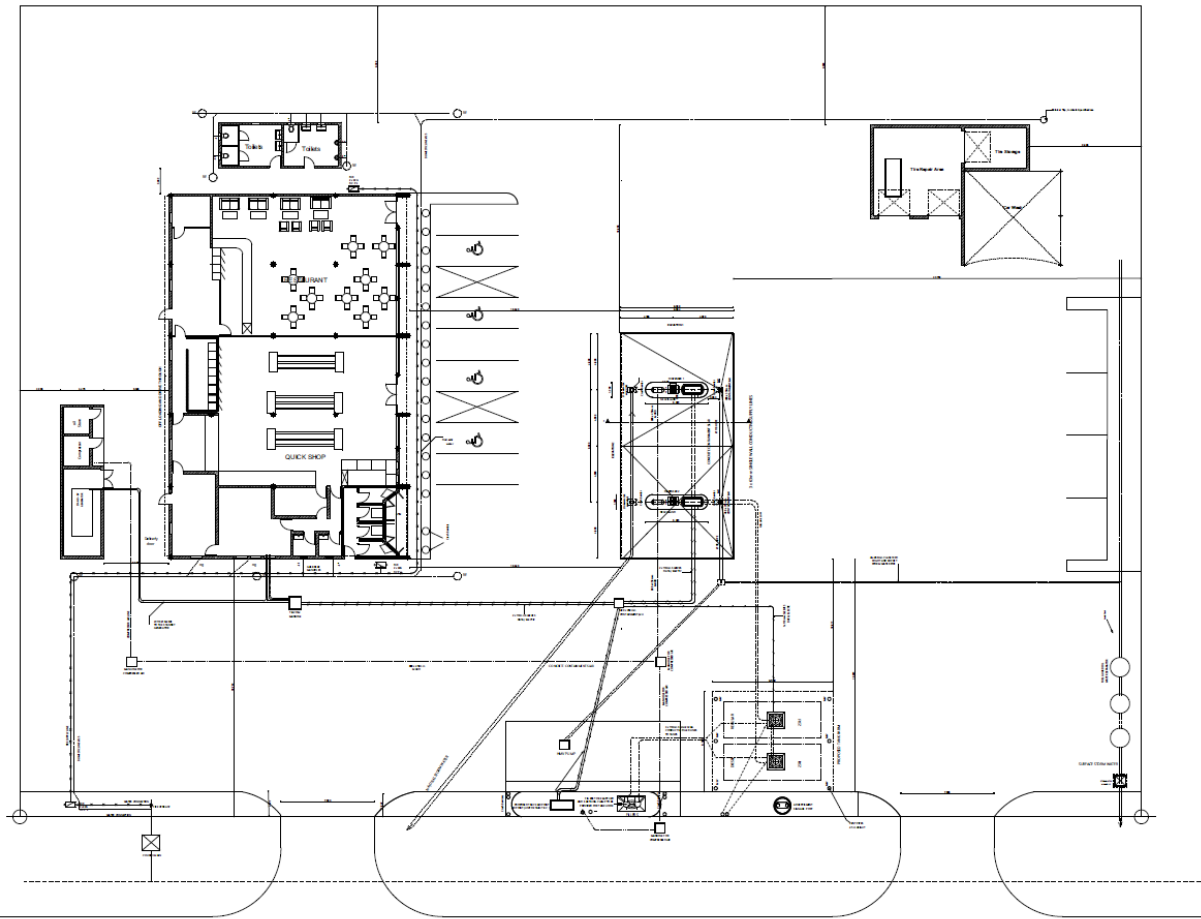
Company Information	: Gaoxa Trading Cc
Registration No.	: CC/2020/06024
Incorporation date	: 24 June 2020
Address	: P.O. Box 905, Grootfontein
Tel	: +264 812346929
E-mail	: MutjiPetrus@gmail.com

Principle Activities: Energy, gasoline (solar and fossil fuels) and property development.

Directors: Petrus Mutji and Sondaha Mutji

Logo:





SITE PLAN
SCALE 1:200

GENERAL NOTES

- ALL MATERIALS AND METHODS ARE TO COMPLY WITH THE NATIONAL BUILDING REGULATIONS (ACT NO. 103 OF 1977) AND AMENDMENTS AND ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE BY-LAWS OF THE RELEVANT LOCAL AUTHORITY
- ALL DIMENSIONS GIVEN IN MILLIMETRES, UNLESS OTHERWISE SPECIFIED
- ALL DIMENSIONS ARE TO BE CHECKED ON SITE BEFORE ANY WORK IS PUT IN HAND. ANY LACK OF CLARITY, AMBIGUITY OR DISCREPANCIES TO BE REPORTED TO THE ARCHITECT FOR CLARIFICATION
- DIMENSIONS ARE NOT TO BE SCALD FROM THIS DRAWING
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH STRUCTURAL, CIVIL, MECHANICAL AND/OR ELECTRICAL ENGINEERS DRAWINGS WHERE APPLICABLE
- CONCRETE STRENGTH 25MPa @ 28 DAYS
- NO CONCRETE IS TO BE USED IF IT HAS BEGUN TO SET
- BEFORE ANY POURING OF CONCRETE THE SHUTTERING IS TO BE CLEARED OF ALL SWAST, OLD CEMENT OR ANY OTHER FOREIGN MATTER
- AT ALL TIMES THROUGHOUT THE COURSE OF THE WORK THE CONTRACTOR SHALL PERSONALLY SUPERVISE THE WORK OR BE REPRESENTED BY A FULLY QUALIFIED AGENT
- LOADS SHALL NOT BE APPLIED TO CEMENT BRICK WALL (MPa @ 28 DAYS) UNTIL ATLEAST AFTER 14 DAYS AFTER THE PLACING OF THE LAST BRICK



CLIENT:
Mr. Muj

CONSULTANT:
CIVIL / STRUCTURAL ENGINEERS

ELECTRICAL ENGINEER:

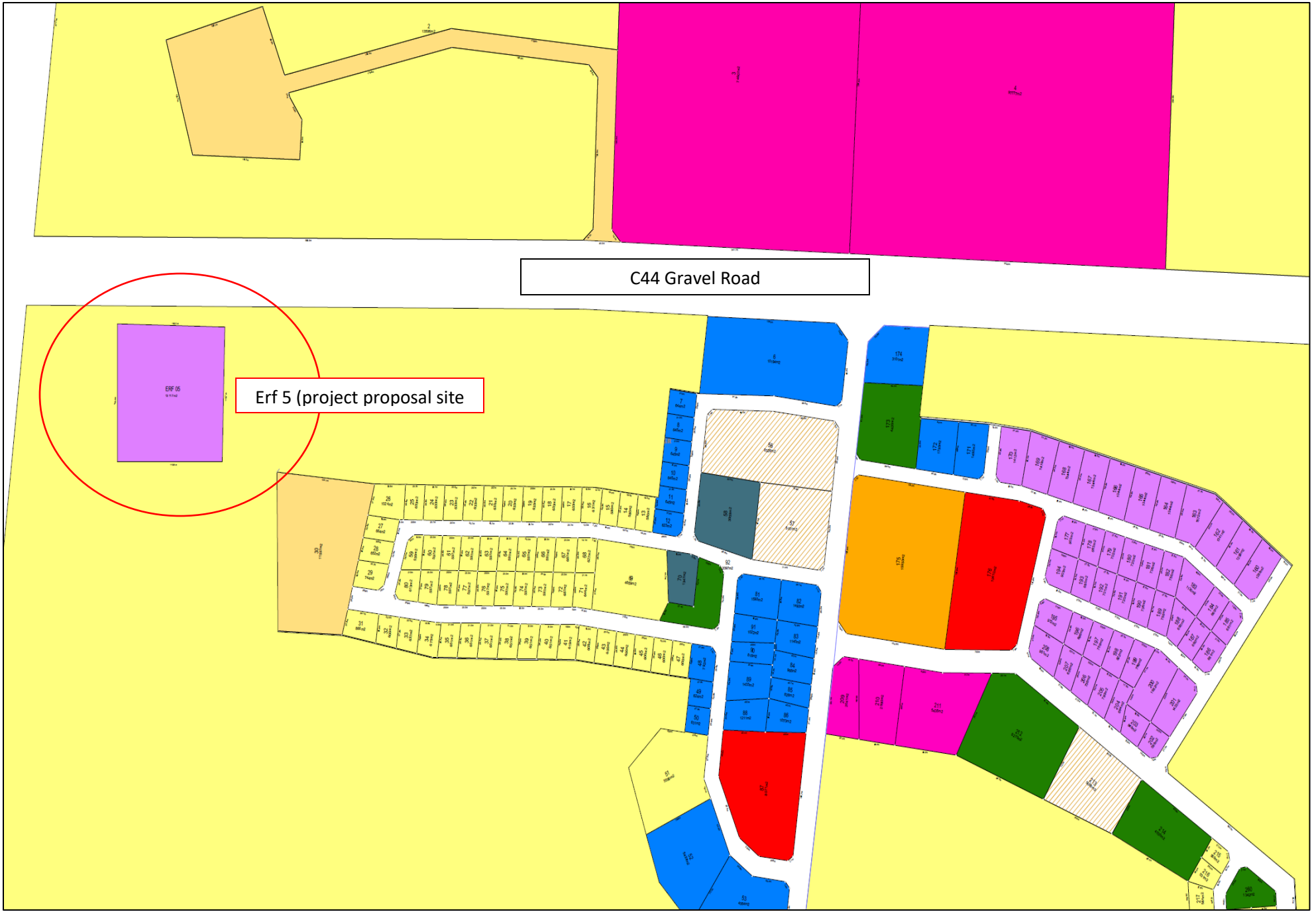
MECHANICAL ENGINEER:

PROJECT TITLE:
New filling Station in Tsamkwe

DRAWING TITLE:

PURPOSE OF DRAWING:
Municipal Submission

DATE	AS SHOWN	PROJ. NO.	
DRAWN	Jason M	012	
DATE	4/16/2020	CHECKED	Jason M



Annexure 7: EA Practitioner details & Resume

Julius Antonius



Experienced and knowledgeable health and safety professional in a current leadership role at a world renowned uranium mining operations of Dundee Precious Metals, familiar with all required industrial safety procedures with nearly 10 years of working experience in Environment, Health & Safety, is prepared to service and facilitate effective HSE coordination through the organisation. Has a history and a proven track record of accident & injury prevention, investigations and critical risk management. A candidate who combines loyalty and dedication with strong attention to details and highly intellect in decision making, leadership and management.

Experience

02-2019 - present

Manager - Safety

Dundee Precious Metals

Responsibilities:

- Formulate activities and plans for the implementation of Safety objectives, strategies for continuous improvement
- Implement process safety controls in line with bow-ties and HAZOP studies
- Ensure that systems are in place to measure, prevent and mitigate safety risks through continuous support and improvement of safety performance and implementation of critical controls.
- Prepare, review and enforce procedures to establish a culture of health and safety
- Evaluate practices, procedures and facilities to assess risk and adherence to the regulations
- Monitor compliance to policies and laws by reviewing employees work and behaviors and operations
- Inspect equipment and machinery to observe possible unsafe conditions
- Investigate accidents or incidents to discover causes
- Recommend solutions to issues, improvement opportunities or new prevention measures
- Conduct Performance Management System and Appraisal to the Safety Officers
- Financial/budget management
- Provide technical guidance, support, and management of safety programs through high level of safety competency
- Report on health and safety awareness, issues and statistics
- Review monthly inspection reports
- Review safety performance (Injury frequency rates)
- Recommend and implement employee targeting behavior change campaigns
- Monitor site safety compliance
- Contractor Safety management
- Effective stakeholders' engagement and communication

04-2017 - 01-2019

HSE Advisor – Production and Asset Maintenance

Rio Tinto - Rossing Uranium Limited

Responsibilities:

- Safety monitoring, analyzing and risk identification
- Incident Investigation
- Providing a specialized advisory role to Rossing employees & contractors
- Planning technical aspects of OHSAS 18001 and Rio Tinto Safety Standards
- Monitoring compliance and resolution of non-conformances as per the regulations
- Providing specialist guidance and advise to line management
- Ensuring incident dockets are filled in accurately and captured onto the system
- Performing HSE inspections and leadership interactions

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- Coordinating development & maintenance of an integrated HSE hazard and risk register
- Conducting comprehensive HSE audits and circulate reports
- Reviewing HSE management systems
- Monitoring adequacy of codes of conduct in safety, health & environment
- Coordinating HSE information flow between respective departments
- Identifying HSE training needs
- Activity & Program budgeting and costing
- Developing and reviewing Safe Working Procedures
- Perform roles of management appointment HSE representative
- Performing post contract evaluations on contracts awarded to check for compliance

07-2012 - 03-2017

Section Head: Occupational Health, Environment & Safety

NIP (Ltd) Namibia Institute of Pathology

» Responsibilities:

- Safety monitoring, analyzing and risk identification and provide corrective actions & mitigation measures
- Conducted Environmental Impact Assessment,
- Injury and emergency management on site
- Strategic and departmental budgeting,
- ISO 17025, 15189 accreditation systems with SANAS
- Performance Management System implementation (PMS)
- Training of Safety Officers and safety representatives
- Internal Safety compliance audits
- Hazard identification and risk profiling
- ISO 14001 & OHSAS 18001 management systems implementation
- Develops, implements and maintains NIP Ltd safety policies and manuals
- Ensures the appointment of functioning workplace Safety Representatives and committees at all branches and laboratories
- Provides assistance to all supervisors regarding legal requirements relating to Health and Safety and on the implementation of policies and procedures
- Ensures that compliance with requirements for a safe working environment is maintained to avoid or contain health risks.
- Ensures implementation of preventative or corrective action in case of non-compliance,
- Performs risk assessments by investigating all environmental health and safety factors in the laboratories,
- Provides guidance to supervisors to ensure accurate reporting of work-related injuries and occupational diseases
- Ensures access to reliable emergency and health care service providers in case of occupational injuries or diseases.
- Develops and ensures the implementation of procedures to manage medical incapacity and unfitness for work
- Attends all relevant meetings, participates in decision making relevant to departmental issues and provides supervisor with regular feedback and reports on activities
- Facilitate annual medical screening & surveillance
- Approve and review alcohol & drug policy
- Develop both HSE Policy

11-2010 - 06-2012

Practitioner: OSHE & Wellness

Roads Authority - Namibia

» Responsibilities:

- Health and safety inspections on regular basis
- Giving safety inductions to new employees and refresher trainings on safety
- Giving health and awareness sessions to employees
- Ensure a workplace is free from serious identified hazards and comply with standards, rules and regulations developed under the OHSAS 18001 and 18000.
- Examine workplace conditions to make sure they conform to applicable OHSAS 18001 and 18000 standards.
- Ensure that all the employees coming on board undergone medical examinations and safety inductions.
- Giving social welfare counseling to employees

- Liaise with medical aid for subsidized rates and members contribution
- Conduct workplace health weeks and monthly health topics
- Conduct wellness activities
- Conducting safety inspections
- Reviewing of companying OSHE Policy.
 - Facilitate annual medical screening & surveillance
 - Give wellness and health talks
 - Conduct peer educators training on HIV & Communicable diseases
- Conduct elections for safety representatives for the workstations.
- Compile Health & Safety quarterly reports
- Co-ordinate fire and emergency drills
- Conduct accident and incident investigations.
- Developed Company's Environmental Policy Statement
- Ensuring that the contractors comply with the OSHE requirements.
- Assist employees in obtaining immediate medical treatment in case of injuries or accidents.
- Participate in the review processes of the policies related to safety, health, and environment and employee welfare
- Develop both HSE & Wellness Policy

01-2009 - 12-2010 **Contract Officer: Occupational Health, Safety, Health, Environment & Wellness**

Telecom Namibia LTD

» **Responsibilities:**

- Health and safety Inspections on regular basis
- Giving health education to employees
- Conducted safety inspections in the company premises and report alleviations.
- Attended to emergency accidents and gave first aid.
- Conducted Health sessions to employees on TB and Alcohol and Drugs Abuse.
- Ensured safety compliance within the company
- Risk assessments
- Health, Safety and Environmental audits
- Give wellness and health talks
- Conduct peer educators training on HIV & Communicable diseases
- Conduct workplace health weeks and monthly health topics

Education

09-2016 - 05-2018 **University of Portsmouth, United Kingdom, London - MSc. Occupational Health & Safety Management**

Principal subject:

- » Risk Management In Practice
- » Construction Health And Safety
- » Research Management And Dissertation
- » Ergonomics
- » Management Essentials For Health And Safety
- » Evaluation And Control Of The Work Environment

01-2011 - 12-2011 **Metropolia University of Applied Sciences, Finland, Helsinki - Postgraduate Environmental Engineering (Occupational Health, Safety & Environmental Management)**

Principal subject:

- » Environmental Engineering, English Communication skills
- » Working in international projects, Water treatment technology
- » Research Methods






01-2008 - 12-2011

Polytechnic of Namibia. (NUST) Windhoek, Namibia Hons. Degree Environmental Health Science

Principal Subjects:

- » Environmental Management 1, 2, 3 & 4
- » Social Studies 1A & 1B
- » Building Construction 1 & 2
- » Microbiology 1B & 2A
- » Health Physics 1A
- » Health Chemistry 1B
- » Health Statistics 1A
- » Food and Meat Hygiene 2 & 3
- » Epidemiology 2 & 3
- » Occupational Health and Safety 2, 3 & 4
- » Management Practice 2, 3 & 4
- » Research Methodology 4

Skills

- | | |
|---|---|
| 1. Extensively familiar with mandated safety standards & procedures for most industrial disciplines, from civil engineering and construction, health care and energy supplies and mineral mining. |  |
| | <i>Advanced</i> |
| 2. Confident in leading and managing teams, ensuring all employees follow instructions precisely as per the standards. |  |
| 3. Excellent communication skills, both presentation, written and oral. |  |
| 4. Strong attention to small details that may create hazardous and risky conditions. |  |
| 5. Organized, familiar with administrative responsibilities, and decision making abilities. |  |

Software

- | | |
|----------------------|--|
| 1. SAP |  Advanced |
| 2. OHASIS |  Expert |
| 3. Prospect |  Advanced |
| 4. MS Excel & EpiNet |  Advanced |

Certificates

- | | |
|---------|---|
| 04-2019 | ICAM Champion and Lead Investigator Certification |
| 08-2015 | Advance Microsoft Excel 2013 (General Technology Consulting cc) |
| 02-2014 | SHEQ Auditing Course NQF 5 - (SHEQ Auditing Activities) NOSA |
| 09-2013 | SAMTRAC (NQF5) NOSA |
| 02-2013 | Introduction to SAMTRAC (NQF 4) |

- 02-2013 Preliminary Incident Investigation (NQF 2) NOSA
- 02-2013 Applying Safety Health & Environmental Principles (NQF 2) NOSA 2013
- 02-2013 SHE Representatives Functions (NQF 2) NOSA

Conferences

- 08-2014 XX World Congress on Safety and Health at Work 2014 (Global Forum for prevention) ILO (Frankfurt, Germany)
- 08-2014 07th International Summer School Occupational Health Crossing Borders (Munich, Germany)
- 04-2013 15th Annual African Wellness & HIV/AIDS Conference (Johannesburg, South Africa)

Courses

- 05-2014 - 05-2014 Employee Health & Wellness Programme (ESAMI)
- 10-2012 - 10-2012 Wellness Peer Education Training (NABCOA)

Annexure 8: Land use authorisation letter



Otjozondjupa Regional Council



TSUMKWE SETTLEMENT OFFICE

Tel: 067 244030/2
Fax: 067 244031

Private bag 2070
Grootfontein

Enquiries:

12 February 2020

TO: Mr. Petrus Mutji
P. O. Box 905
Grootfontein

SUBJECT: RESERVATION LETTER FOR BUSINESS ERF OF PORTION OF ERF NO. 5 IN TSUMKWE SETTLEMENT

Your application for allocation of land on leasehold dated **18.12.2019** has reference.

The Tsumkwe Settlement Office acknowledges received your application of the allocation of portion of erf: **5** measuring **13,225** square meters (m²) in Tsumkwe Settlement.

This reservation is subject to the acceptance of the offer by signing the lease agreement after the Regional Council approved your application upon Settlement Development Committees (SDC) recommendation within two months from the date of this letter, which reservation will lapse if acceptance of the offer is not made within two month.

No further communication, in this regard, will be made by the Settlement office and the plot concern will be reallocated to another applicant.

Yours faithfully


.....
Likoro N. Mashesho
Control Administrative Officer



Annexure 9: Application form for clearance certificate

ANNEXURE 1
FORMS

Form 1

REPUBLIC OF NAMIBIA
ENVIRONMENTAL MANAGEMENT ACT, 2007

(Section 32)

APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE



PART A: DETAILS OF APPLICANT


1. Name: (person or business)	Julius Antonius o/a (Seanton Investment CC)
2. Business Registration / Identity No. (if applicable)	ID: 88021400242 (cc/2014/013107)
3. Correspondence Address:	P.O. Box 8857, Bachbrecht, Windhoek
4. Name of Contact Person:	Julius Antonius
5. Position of Contact Person:	Principal EIA Consultant
6. Telephone No.:	0818778855
7. Fax No.:	N/A
8. E-mail Address : (if any)	seanton.investmentcc@gmail.com

Tick () the appropriate box

PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE

<p>1. The environmental clearance certificate is for:</p> <p><input checked="" type="checkbox"/> Project: Development of //Aiha Service/Fuel Station in Tsumkwe West</p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p>2. Details of the activity(s) covered by the environmental clearance certificate:</p> <p>[Note: Please attach plans to show the location and scope of the designated activity(s), and use additional sheets if necessary:</p> <p>Title of Activity: //Aiha Service Station Nature of Activity: New infrastructure Location of Activity: Erf 5, West of Tsumkwe Settlement, alongside C44, main road. Otjozondjupa Region Scale and Scope of Activity: Portion of 13 255 m² (Undeveloped virgin land)</p>
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PART C: DECLARATION BY APPLICANT

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.		
	Julius Antonius	Principal EIA Consultant
Signature of Applicant	Full Name in Block Letters	Position
on behalf of	Seanton Investment CC	21.05.2020
	Date	