ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT FOR THE PROPOSED QUIVER TREE INDUSTRIAL PARK EXT1 IN KEETMANSHOOP, //KARAS REGION: NAMIBIA.

ENVIRONMENTAL SCOPING REPORT

DATE: FEBRUARY 2021

APP APP-003509

KEETMANSHOOP MUNICIPALITY

EnviroPlan Consulting cc
....innovative planning for sustainability

DOCUMENT DATA SHEET

DOCUMENT VERSION 001

PROJECT NAME	**PROPOSED QUIVER TREE INDUSTRIAL PARK EXT1 IN KEETMANSHOOP, //KARAS REGION: NAMIBIA**
REPORT TITLE	**ENVIRONMENTAL SCOPING REPORT: (ESR)**
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Definitions

TERMS	DEFINITION
BID	Background Information Document
EAP	Environmental Assessment Practitioner
ECC	Environmental Clearance Certificate
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EMP	Environmental Management Plan
GHG	Greenhouse Gasses
ISO	International Organization for Standardization
I&APs	Interested and Affected Parties
MET: DEA	Ministry of Environment and Tourism's Directorate of Environmental Affairs
NHC	National Heritage Council
NEMA	Namibia Environmental Management Act
PRP	Pit Rehabilitation Plan
ToR	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

EXECUTIVE SUMMARY

EnviroPlan Consulting cc has been engaged by Keetmenshoop Municipality to conduct an Environmental Impact Assessment (EIA), develop an Environmental Management Plan (EMP) and to apply for an Environmental Clearance Certificate for the proposed Township Establishment & Layout Approval On Portion 83 Of Keetmanshoop Extension 1 Town And Townlands No.150, Consisting Of 31 Erven & Remainder to be known as Quiver Tree Ext 1.

The development project has triggered the application for an environmental clearance certificate as the following listed activity will be triggered by:

LAND USE AND DEVELOPMENT ACTIVITIES

- 5.1d the rezoning of land from; zoned open space to any other land use

Environmental Impacts

-Low potential environmental impact.

-Relative or moderate social impact (positive)

Social Impacts

The project is set to improve the socio-economic environment of Luderitz through a major boost in business through industrial development, employment and direct investments in the town.

1. CHAPTER ONE: BACKGROUND

1.1. INTRODUCTION

The proponent Keetmanshoop Municipality intends to improve business and industrial intergradation and development in the town. In this respect, the proponent seeks authorization for **Township Establishment & Layout Approval On Portion 83 Of Keetmanshoop Extension 1 Town And Townlands No.150, Consisting Of 31 Erven & Remainder to be known as Quiver Tree Ext 1.**

The project will oversee the conversion and consolidation of open land into an industrial area, however for this to be approved, EnviroPlan consulting cc was appointed to undertake an Environmental Scoping Assessment (ESA), formulate an Environmental Management Plan (EMP) and apply for an Environmental Clearance Certificate (ECC) to the Ministry of Environment, Forestry and Tourism (MEFT): Directorate of Environmental Affairs (DEA).

In this respect, this document forms part of the application to be made to the DEA's office for an Environmental Clearance certificate for the proposed township establishment according to the the guidelines and statutes of the Environmental Management Act No.7 of 2007 and the environmental impacts regulations (GN 30 in GG 4878 of 6 February 2012).

1.2. PROJECT LOCATION

Quiver tree industrial park Ext 1is located on Portion 82 of Keetmanshopp Town and Townlands no. 150. The portion is located adjacent to the existing Keetmanshoop industrial area, bordered by the B4 highway to Luderitz to the South and the Railway line to the North. The protion gives way into the railway siding for industrial erven that require railway line access. Several Informal roads and footpaths visible in the area, the map below (Fig 1) gives an Arial view of the project site:

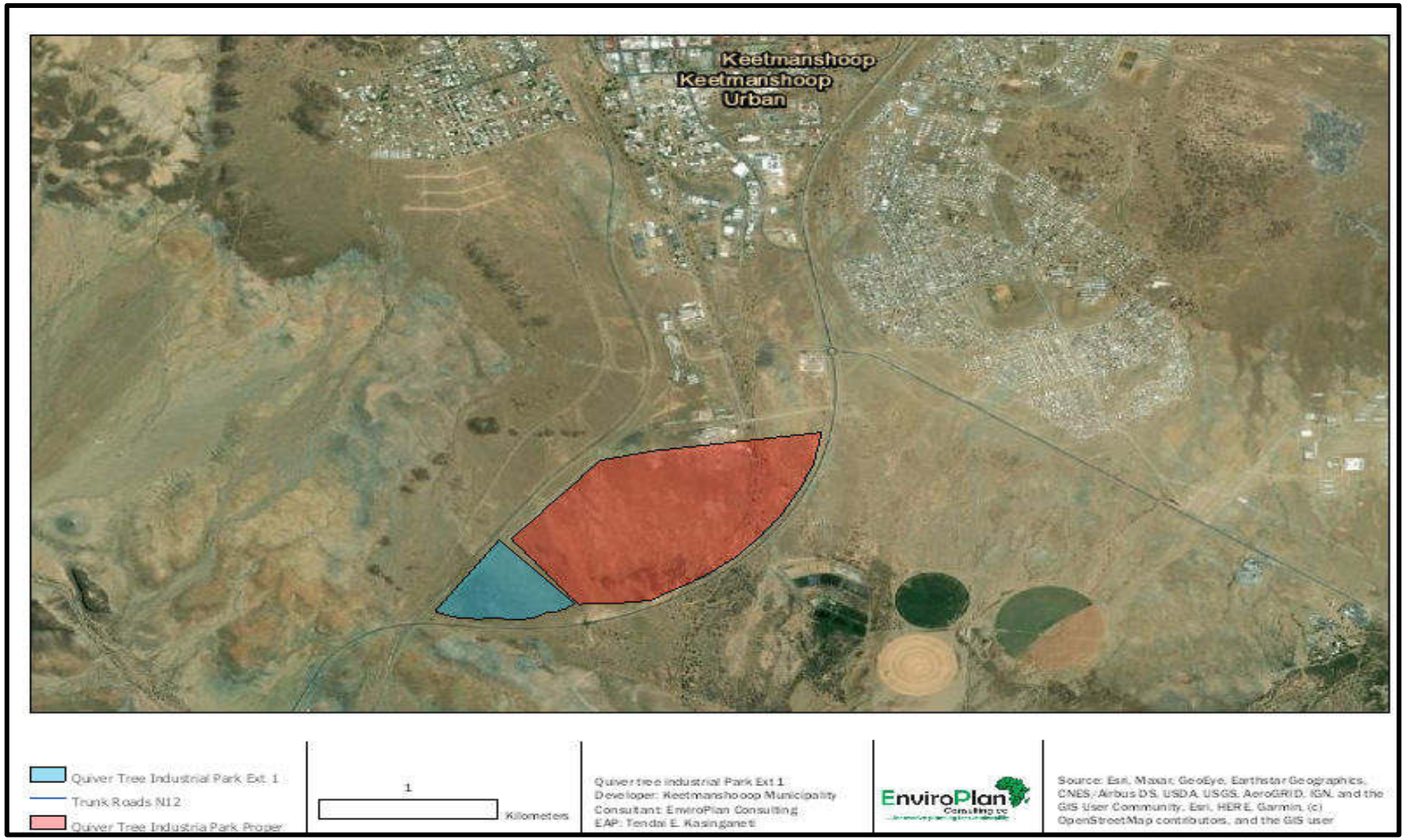
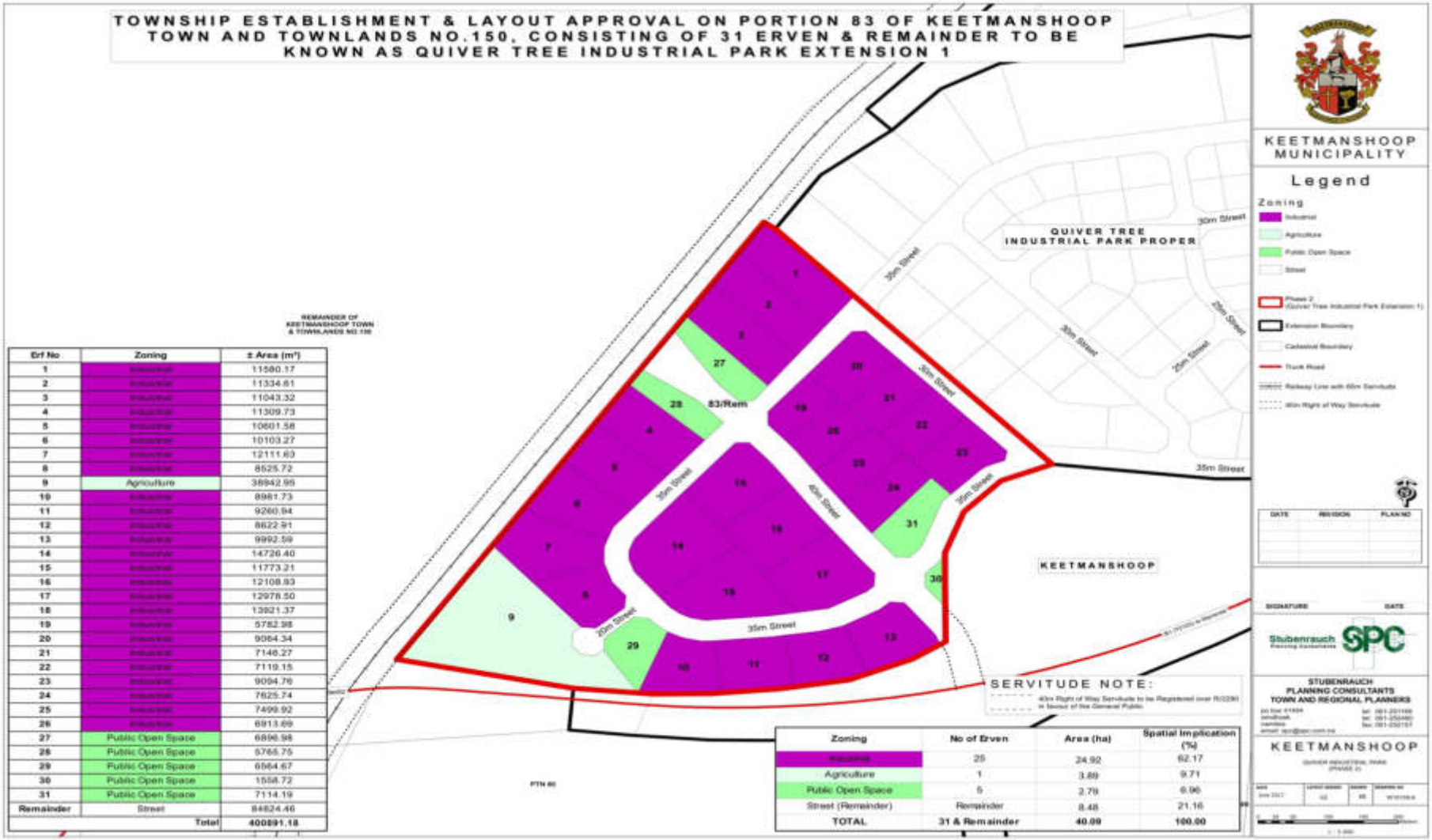


Figure 1: Quiver Tree Industrial Park EXT 1 Locality



Erf No	Zoning	± Area (m²)
1	Industrial	11580.17
2	Industrial	11334.61
3	Industrial	11043.32
4	Industrial	11309.73
5	Industrial	10601.58
6	Industrial	10103.27
7	Industrial	12111.83
8	Industrial	8525.72
9	Agriculture	38942.95
10	Industrial	8981.73
11	Industrial	9260.94
12	Industrial	8622.91
13	Industrial	9992.59
14	Industrial	14726.40
15	Industrial	11773.21
16	Industrial	12108.83
17	Industrial	12978.50
18	Industrial	13821.37
19	Industrial	5782.98
20	Industrial	9084.34
21	Industrial	7146.27
22	Industrial	7119.15
23	Industrial	9094.76
24	Industrial	7625.74
25	Industrial	7499.92
26	Industrial	6913.69
27	Public Open Space	6896.98
28	Public Open Space	5765.75
29	Public Open Space	6564.67
30	Public Open Space	1558.72
31	Public Open Space	7114.19
Remainder	Street	84824.46
	Total	400891.18

Zoning	No of Erven	Area (ha)	Spatial Implication (%)
Industrial	25	24.92	62.17
Agriculture	1	3.89	9.71
Public Open Space	5	2.79	6.96
Street (Remainder)	Remainder	8.48	21.16
TOTAL	31 & Remainder	40.09	100.00

Figure 2: Proposed Layout Plan

1.3. PROJECT DESCRIPTION

1.3.1. DEVELOPMENT PROPOSAL & LAYOUT

- The area under development can be broadly described as an undeveloped area, wedged between the B4 highway and the railway line. The proposed development will cater mainly to General Industrial erven and a few light industrial erven.

1.3.2. THE DEVELOPMENT PROPOSAL IS ENCOMPASSED THE FOLLOWING:

- To develop a strong Industrial development that is linked with both the railway and the B1 road and thereby obtain crucial support from these infrastructure corridors
- The development will comprise of erven in a variety of sizes from 2 000 sqm to 10 000 sqm.
- The development is in line with the structure plan;
- The industrial development will increase the industrial potential of keetmanshoop and thereby once operational, create the much-needed employment;
- To strengthen the industrial node at the existing customs and excise development.

1.3.3. THE CONSOLIDATION

The Quiver Tree Industrial Park will be situated on portions 83 and 82 of the Keetmanshoop Town and Townlands No. 150. Portion 82 forms part of the agreement, but as portion 82 is reserved as a street (part of the railway siding) it was decided to exclude portion 82 from consolidation and rather incorporate the portion as a street/railway siding into Quiver Tree Industrial Park Extension 1 is approved by Townships Board. This will ensure access from the railway siding.

1.3.4. ENGINEERING SERVICES

- Provision of Bulk Services
- Stormwater management and channeling
- Road alignment and connectivity onto existing street network

1.3.5. ACCESSIBILITY

The site is already accessed through B4 road and a street from the existing industrial area will be created.

1.3.6. TOPOGRAPHY, STORMWATER AND EXISTING USAGE

The area is on a generally slopping surface, siding towards the south-east and there are visible water overland flow tracks. Standard stormwater drainage will have to be constructed.

Sewage reticulation system will be connected to the existing Town Council infrastructure.

1.3.7. INFRASTRUCTURE AND SERVICES

Water and electrical services will be linked to the existing town services reticulation networks. The wastewater sanitary system has been designed for the safe handling of liquid waste in the particular inclined landscape scenario.

1.4. NEED AND DESIRABILITY

There is presently drive torwards industrialisation in Namibia, and Keetmanshoop municipality has established itself as one of the fast-growing towns in the Karas region. In addition, due to its strategic positioning connecting to Noordower, Upington, Windhoek and Lüderitz makes Keetmanshoop a potential industrial and logistics hub for Namibia.

Based on existing requests for industrial land and the plans of the town, Keetmanshoop municipality is proposing the establishment of the following developments. The project proponent came up with this project after realising the pressure of accommodation being experienced in Luderitz due to the growth of the fishing sector as well as mining activities.

1.5. OBJECTIVE OF THIS STUDY

This Environmental Impact Assessment is being undertaken in compliance with the Environmental Management Act No.7 of 2007 and the Environmental Impacts Assessments Regulations (GN 30 in GG 4878 of 6 February 2012). It is a prerequisite by the law to have an Environmental Impact Assessment carried out before the implementation of the prescribed projects as elaborated in the Environmental Impacts Regulations (GN 30 in GG 4878 of 6 February 2012). The main objectives of this study are as follows:

- To identify and provide mitigation measures of the expected impacts of the proposed land development project to protect the environment;
- To brief the Project Proponent of the legal and policy framework governing the proposed activity;
- To identify the possible changes in the bio-diversity index that might be because of Project implementation in the area;
- To reflect on the various public concerns which will help the National Environmental Action Planners, economist and concerned stakeholders to make decisions;
- To come up with preventive and precautionary measures for the expected physical and biological environmental negative impacts associated with the proposed activities;
- To structure an effective environmental management plan for the sub division and servicing of the land facet to minimise and prevent negative impacts and maximise the positive impacts.

1.6. TERMS OF REFERENCE

The Environmental Impact Assessment conducted by EnviroPlan Consulting, providing comprehensive evaluation of the proposed project producing both EIA and EMP report documenting the following:

- A complete description of the existing site proposed for development;
- Significant environmental issues of concern that were based on the baseline data compiled by the EIA Team, which took into consideration social, cultural and heritage information;
- An assessment of the public perception on the proposed development.
- Identification of Policies, Legislation and Regulations relevant to the project;
- Prediction of the likely short, medium and long-term impact of the development on the environment, including direct, indirect and cumulative impacts, and their relative importance to the design of the development's facilities;
- Identification of any mitigation action to be taken to minimize predicted adverse impacts and provide associated costs where applicable and practical;
- Development of an environmental monitoring plan which will ensure that the mitigation measures are adhered to during the implementation phase;
- A conclusion and recommendations remarks for the project proponent on an advisory note.

2. CHAPTER TWO: POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

2.1. INTRODUCTION

An important part of the EIA is identifying and reviewing the administrative, policy and legislative situation concerning the proposed activity, to inform the proponent about the requirements to be fulfilled in undertaking the construction and land servicing activities. This section looks at the legislative framework within which the proposed development will be serviced and operate under.

The focus is on the compliance with the legislation during the planning, construction and operational phases. All relevant legislations, policies and international statutes applying to the project are highlighted in table 2. below as specified in the Environmental Management Act, 2007 (Act No.7 of 2007) and the regulations for Environmental Impact Assessment as set out in the Schedule of Government Notice No. 30 (2012).

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Table 1: Applying Policies, legal and Administrative regulations

Legislation/Policy/Guiding document	Provision	Project implication
The Constitution of the Republic of Namibia (1990)	The articles 91(c) and 95(i) commit the state to actively promote and sustain the environmental welfare of the nation by formulating and institutionalizing policies to accomplish the sustainable objectives which include: - Guarding against overutilization of biological natural resources, - Limiting over-exploitation of non-renewable resources, - Ensuring ecosystem functionality, - Maintain biological diversity.	Through implementation of the environmental management plan the proposed development will be in conformant to the constitution in terms of environmental management and sustainability.
Vision 2030 and National Development Plans	Namibia's overall Development ambitions are articulated in the Nations Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 5th NDP that pursues three overarching goals for the Namibian nation: high and sustained economic growth; increased income equality; and employment creation.	The proposed project will open new opportunities for industrial development in Karas Region, as well as creating employment in construction, which will be in fulfilment to the NDP and Vision 2030.

Environmental Assessment Policy of Namibia 1994	The Environmental Assessment Policy of Namibia requires that all projects, policies, Programmes, and plans that have detrimental effect on the environment must be accompanied by an EIA. The policy provides a definition to the term "Environment" broadly interpreted to include biophysical, social, economic, cultural, historical and political components and provides reference to the inclusion of alternatives in all projects, policies, programmes and plans.	The development establishment will only commence after being awarded an environmental clearance certificate, thus by abiding to the requirements of the Environmental Assessment Policy of Namibia. The EIA and EMP will cater for the sustainable management of bio-physical environment.
Environmental Management Act No. 07 of 2007	The Act aims at ✓ Promoting the sustainable management of the environment and the use of natural resources by establishing principles for decision-making on matters affecting the environment; ✓ To provide for a process of assessment and control of projects which may have significant effects on the environment; ✓ To provide for incidental matters. The Act gives legislative effect to the Environmental Impact Assessment Policy. Moreover, the act also provides procedure for adequate public participation during the environmental assessment process.	This document is compiled in a nature that project implementation is in line with the objectives of the EMA Act. Guiding procedures were also drawn from the act to facilitate for the carrying out of the EIA and drafting the EMP for the proposed development.

Public Health Act (No. 36 of 1919)	Under this act, in section 119: "No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health."	The project proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected. -Personal protective equipment shall be provided for employees in construction. -The development shall follow requirements and specification in relation to water supply and sewerage handling so as not to threaten public health of future residents on this piece of land.
Soil Conservation Act 76 of 1969	The objectives of this Act are to: ✓ Make provisions for the combating and prevention of soil erosion, ✓ Promote the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic.	The project will have a rather localized impact on soils and on the soil through construction and access roads construction hence soil protection measures will be employed and preservation of trees as much as possible.
Nature Conservation Ordinance 1996	To consolidate and amend the laws relating to the conservation of nature; the establishment of game Parks and nature reserves; the control of problem animals; and to provide for matters incidental thereto.	The proposed project implementation is not located in any known or demarcated conservation area, national park or unique environments. The project site was selected with this ordinance in mind to ensure that Namibian nature is conserved.
Protected Areas and Wildlife Management Bill	This bill, when it comes into force, will replace the Nature Conservation Ordinance 4 of 1975. The bill	The project has ensured that their activities do not fall within the boundaries of any protected

	recognizes that biological diversity must be maintained, and where necessary, rehabilitated and that essential ecological processes and life support systems be maintained. It protects all indigenous species and control the exploitation of all plants and wildlife.	area and that the project will not affect heavily endangered vegetation and animals on its site.
Forest Act, 2001 (Act No. 12 of 2001)	The Act gives provision for the protection of various plant species through the Ministry of Agriculture, Water and Forestry (MAWF), Directorate of Forestry).	- The proponent will also have to ensure that there is no indiscriminate cutting down of trees. -The proposed site is sparsely vegetated with white thorn tree species, which are not threatened or protected.
National Biodiversity Strategy and Action Plan (NBSAP2)	The action plan was operationalised in a bid to make aware the critical importance of biodiversity conservation in Namibia putting together management of matters to do with ecosystems protection, biosafety, biosystematics protection on both terrestrial and aquatic systems.	The proponent has been advised by the EIA Team and recognises the need for ecosystems protection to manage the changing climatic environment. -Through this project, there will be reforestation and fostering of green development, which will be promoting the protection and conservation of the biophysical environment, and with this EIA, it will be ensure that almost 40% of grown tree species on site will not be removed but rather will be part of the development, to promote Greed development.

National Policy on Climate Change for Namibia, 2010	In harmony with the findings of the IPCC over time and the Earth Summits being held annually the policy seeks to outline a coherent, transparent and inclusive framework on climate risk management in accordance with Namibia's national development agenda, legal framework, and in recognition of environmental constraints and vulnerability. Furthermore, the policy pursues the strengthening of national capacities to reduce climate change risk and build resilience for any climate change shocks.	The proposed project will ensure that there will be limited release of greenhouse gasses such as methane, carbon dioxide, nitrous oxides. Methods such as wet surface operations to reduce dust emissions will be utilised to remove aerosols emitted into the near-surface atmosphere.
Wetland Policy, 2004	The policy provides a platform for the conservation and wise use of wetlands, thus promoting inter-generational equity regarding wetland resource utilization. Furthermore, it facilitates the Nation's efforts to meet its commitments as a signatory to the International Convention on Wetlands (Ramsar) and other Multinational Environmental Agreements (MEA's).	In compliance to this policy the development will ensure a standard environmental planning such that it does not affect any wetlands within its locale through recognition of wetlands to promote the conservation and wise utilization of wetlands resources.
Water Resources Management Act, 2013 (Act No. 11 of 2013)	This Act provides for the management, protection, development, use and conservation of water resources and the regulation and monitoring of water services and to provide for incidental matters. (Department of Water Affairs).	Water usage during construction will be supplied by Keetmanshoop Municipality.

National Heritage Act 27 of 2004	Heritage resources to be conserved in development. (National Heritage	During the project implementation as soon as objects of cultural and heritage interests are observed such as graves, artefacts and any other object believed to be order than 50 years, all measures will be taken protect these objects until the National Heritage Council of Namibia have been informed, and approval to proceed with the operations granted accordingly by the Council.
National Monuments Act of Namibia (No. 28 of 1969) as amended until 1979	"No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: (a) any meteorite or fossil; or (b) any drawing or painting on stone or a petroglyph known or commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or (c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph (b); or (d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or	The proposed site of development is not within any known monument site both movable or immovable as specified in the Act, however in such an instance that any material or sites or archeologic importance are identified, it will be the responsibility of the developer to take the required route and notify the relevant commission.

	(e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.	
Pollution Control and Waste Management Bill	This bill has not come into force. Amongst other the bill aims to "prevent and regulate the discharge of pollutants to the air, water and land" Of particular reference to the Project is: Section 21 "(1) Subject to sub-section (4) and section 22, no person shall cause or permit the discharge of pollutants or waste into any water or watercourse." Section 55 "(1) No person may produce, collect, transport, sort, recover, treat, store, dispose of or otherwise manage waste in a manner that results in or creates a significant risk of harm to human health or the environment."	To control air, water and land pollution as agitated by the Act the project proponent will ensure that erven will have approved drainage on site and that sanitation facilities do not threaten public health, adding on an integrated pollution management strategy following the EMP and will be operationalised on site.
Convection on Biological Diversity (CBD)	Namibia is a signatory of the Convention on Biological Diversity and thus is obliged to conserve its biodiversity.	The project will preserve tree species on as part of their plans for green and sustainable development.
United Nations Convection to combat Desertification	Namibia is bound to prevent excessive land degradation that may threaten livelihoods.	It will be the responsibility of the developer and future land owners at to conserve vegetation on and around the area, to avoid encroachment of the desert environs in the area.

3. CHAPTER THREE: RECEIVING ENVIRONMENT

3.1. SOCIO-ECONOMIC

The project development is proposed by Keetmanshoop, and the statistics shown below are derived from the 2011 Namibia Population and Housing Census (Namibia Statistics Agency, 2013), and presented from a local and regional perspective.

Table 2: Statistics of the Keetmanshoop Urban Constituency and //Karas Region (Namibia Statistics Agency, 2011)

ATTRIBUTE	INDICATOR
KEEMANSHOOP URBAN	
Population	19,447
Females	9,970
Males	9,477
Population under 5 years	11%
Population aged 5 to 14 years	20%
Population aged 15 to 59 years	63%
Population aged 60 years and above	7%
Female: male ratio	95:92
Literacy rate of 15 years old and above	97%
People above 15 years who have never attended school	3%
People above 15 years who are currently attending school	12%
People above 15 years who have left school	83%
People aged 15 years and up who belong to the labour force	72%
Population employed	65%
Homemakers	10%
Students	44%
Income from pension	10%
Income from business and non-farming activities	7%
Income from farming	1%
Income from cash remittance	5%
Wages and salaries	73%
//KARAS REGION	

Population	77,421
Rural population	46%
Females	38,014
Males	39,407
Main Language	Afrikaans (36%)

The construction team will be based inKeetmanshoop. As with most parts of Namibia, HIV/Aids is also a significant issue in Karas Region, therefore awareness session must be conducted with construction team prior to the start of the project..

3.2. CLIMATE

Classification of climate: The climate in Keetmanshoop is classified as BWh by Köppen and Geiger. It is situated in a semi-desert climate.

Average rainfall: There is virtually no rainfall during the year, in a year, the average rainfall is 231mm .

Temperature: In Keetmanshoop, the average annual temperature is 21.8°C. There is high evaporation and high daytime temperatures.

3.3. TERRESTRIAL ECOLOGY

3.3.1. BIODIVERSITY

The succulent Karoo The vegetation type of Keetmanshoop town falls within the Nama Karoo biome. The Nama Karoo supports a “varied assemblage of plant communities, ranging from deciduous shrub vegetation to perennial grasslands and succulent shrubs. Although dwarf shrubs dominate, there is a wealth of plant species due to the great variety of geological substrates, soils and landforms” (Mendelsohn et al., 2002). The area is characterised by vegetation of the Karas dwarf Shrub land that is mostly found in Eutric Leptosols and Petric Calcisol soils. The vegetation is dominated by grasslands and low shrubs (Mendelsohn et al., 2002). There is no significant flora found on the proposed site as the site is mostly developed already.

The site is presently an open undeveloped piece of land, however, due to impacts from surrounding activities, there are no large wild animals expected to be inhabitants except maybe for small rodents and insects that shelter in burrows and under rocks.

The site is under development can be broadly described as an undeveloped area, wedged between the B4 highway and the railway line.

Figure 3: Left-Shrubs on site, Right-Existing access road to the site

Figure 4: Left-Existing industrial shells near the areas, Right-Vegetation cover on the broader area

Quiver Tree industrial Part Ext 1 is situated on an undulating piece landscape, with deep sandy soils covering a greater portion of the area. As indicated above the project area is mostly covered by dwarf shrubs and grass. The portion is also affected by solid waste since it is located at the outskirts of the town, hence some residents dump their domestic and construction waste on this portion due to ease of access.

3.4. PEDOLOGY, GEOLOGY AND TOPOGRAPGHY

The Keetmanshoop is situated within the Nama-Karoo Basin, which is a “large, flat-lying plateau which dominates much of southern Namibia. Sedimentary rocks deposited in the Nama Basin and later in the same area in the Karoo Basin form the foundations of the landscape. The basin slopes from the north, where elevations are about 1,400 m above sea level, to the south, where altitudes are approximately 900 m above sea level. The Fish, Löwen and Konkiep rivers drain the landscape, all flowing south to the Orange River” (Mendelsohn, 2002)..

There is no to little vegetation cover in the area because the soil will not be able to provide plants with sufficient water or nutrients. The potential soil impacts in the study area is that the soils in the area are susceptible to erosion and compaction, therefore the disturbance of the soil surface in the vicinity of the project, must be minimised to prevent wind erosion. The footprint of the construction area must be kept small as much as possible and existing access road are to be utilised at all times to avoid off road tracks. The project footprint area should not be cleared entirely and the site should be rehabilitated after the construction phase.

3.5. HYDROLOGY

The town of Keetmanshoop and a large part of the //Karas Region falls within the Fish river water basin and Fish River catchment area. The town itself has a number of smaller ephemeral rivers, the largest being the Skaap River that runs through the eastern part of town, southwards to the Naute dam. These river systems are sensitive areas and care should be taken that developments do not pollute these resources as it will eventually influence the water quality of the town.

A reconnaissance level field assessment was conducted to confirm the current conditions in the area and to identify potential hydrologic risks associated with establishment of the proposed township development. The site is relatively does not fall within a river or waterway that may affect or pollute nearby waterways. The area shows evidence of surface erosion, indicating the need for nadequate draimnagage management system. The surrounding area is relatively flat giving limited chance for surface drainage thence the need of good drainage system to avoid waterlogging problems.

4. CHAPTER FOUR: PUBLIC CONSULTATION

Public Consultation forms an important component of the Environmental Assessment process as specified in the EIA Regulations (2012), Section 21 of the Regulations details steps to be taken during a given public consultation process and these have been used in guiding our process.

Formal public involvement has taken place via newspaper adverts, site notice and registering I&APs. The public consultation process has been guided by the requirements of Environmental Management Act (EMA) No. 7 of 2007 and the process has been conducted in terms of regulation 7(1) as well as in terms of the EMA Regulations of GN 30 of 6 February 2012 .

4.1. PUBLIC CONSULTATION ACTIVITIES

The following tasks have been undertaken during public consultation process which started October 2021.

4.1.1. IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES (I&APS)

After the scoping process, the EIA team identified I&APs and key stakeholders of the proposed project. The public participation activities to be undertaken for this EIA process were incorporated into the overall approach of the EIA background information. Among key stakeholders identified were Keetmanshoop municipality and surrounding land owners (neighbours). Other I&APs could register to the EIA team and a special database created capturing all their names and correspondence details.

Distribution of BID

A Background Information Document (BID) was distributed on request by I&A Parties and it was distributed to key stakeholders identified during the scoping process. The Background Information Document (BID) provided a description summary of the proposed project, and the project proponent and the whole procedure of the EIA to be followed.

Public Announcement.

An extensive public announcement was done to make sure the public is aware of proposed development by EnviroPlan Consulting cc. The EIA study was announced publicly through the following means:

Table 3: Details on public notifications of the EIA stud

Method	Area of Distribution	Language	Date Placed
Confidante	Country Wide	English	07 & 14 October 2021
Windhoek Observer	Country Wide	English	07 & 14 October 2021
Site notices	Keetmanshoop Municipality Notice board	English	02 October 2021
	Project Site	English	02 October 2021

Figure 5: Site Notices on the project development were posted on site and at Keetmanshoop Municipality notice board

5. CHAPTER FIVE: ENVIRONMENTAL AND SOCIO-ECONOMIC IMPACTS

5.1. OVERVIEW

The project proponent is committed to sustainability and environmental compliance through coming up with a corrective action plan for all the anticipated environmental impacts associated with the project. This is also in line with the Namibian Environmental Management legislation and International best practices on township establishment and associated activities.

The proponent shall implement the hereto attached Environmental Management Plan (EMP) in order to prevent, minimise and mitigate negative impacts. The EMP developed by Plan Africa cc to address all the identified expected impacts, the plan will be monitored and updated on a continuous basis, with aim for continuous improvement to addressing impacts.

5.2. IMPACT ASSESSMENT METHODOLOGY

An impact assessment matrix was used to assess all possible impacts of the project on the environment. In line with Namibia Environmental Management Act No. 7 of 2007 and the Environmental Impacts Regulations (GN 30 in GG 4878 of 6 February 2012) with the direction on impacts analysis the following impact assessment criteria was identified by the team and deemed suitable.

Table 4: Impact Screening Criteria

Aspect	Description
Nature	Focuses on the type of effect that the proposed establishment will have on environmental components. Addresses questions related to “what will be affected and how?”
Extent	Spatial extend of the project and anticipated spatial extend of impacts indicating whether the impact will be within a limited area (on site where construction is to take place); local (limited to within 15km of the area); regional (limited to ~100km radius); national (extending beyond Namibia’s boarders).
Duration	This looks at the temporal issues pertaining to time frames e.g. whether the impact will be temporary (during construction only), short term (1-5 years), medium term (5-10 years), long term (longer than 10 years, but will cease after operation) or permanent.

Intensity	Establishes whether the magnitude of the impact is destructive or innocuous and whether it exceeds set standards, and is described as none (no impact); low (where natural/ social environmental functions and processes are negligibly affected); medium (where the environment continues to function but in a noticeably modified manner); or high (where environmental functions and processes are altered such that they temporarily or permanently cease and/or exceed legal standards/requirements).
Probability	Considers the likelihood of the impact occurring and is described as uncertain, improbable (low likelihood), probable (distinct possibility), highly probable (most likely) or definite (impact will occur regardless of prevention measures).
Significance	Significance is given before and after mitigation. Low if the impact will not have an influence on the decision or require to be significantly accommodated in the project design, Medium if the impact could have an influence on the environment which will require modification of the project design or alternative mitigation (the route can be used, but with deviations or mitigation) High where it could have a "no-go" implication regardless of any possible mitigation (an alternative route should be used).

The application of the above criteria will be used to determine the significance of potential impacts using a combination of duration, extent, and intensity/magnitude, augmented by probability, cumulative effects, and confidence. Significance is described as follows:

Table 5: Impact Rating Criteria

Significance Rating	Criteria
Low	Where the impact will have a negligible influence on the environment and no modifications or mitigations are necessary for the given development description. This would be allocated to impacts of any severity/ magnitude, if at a local scale/ extent and of temporary duration/time.
Medium	Where the impact could have an influence on the environment, which will require modification of the development design and/or alternative mitigation. This would be allocated to impacts of moderate severity/magnitude, locally to regionally, and in the short term.
High	Where the impact could have a significant influence on the environment and, in the event of a negative impact the

	activity(ies) causing it, should not be permitted (i.e. there could be a 'no-go' implication for the development, regardless of any possible mitigation). This would be allocated to impacts of high magnitude, locally for longer than a month, and/or of high magnitude regionally and beyond.

5.3. IMPACT ASSESSMENT

By subjecting each of the potential impacts to the matrix above, the EIA team established the significance of each impact prior to implementing mitigation measures and then after mitigation measures have been implemented. Some of the mitigation measures are mentioned but detailed descriptions of management actions are contained in the accompanying EMP.

Table 6: Environmental impact Assessment Matrix

Impact	Status/nature	Extent	Duration	Intensity	Probability	Significance		
						Before Mitigation	Mitigation applied	Post Mitigation
Servicing and Construction Phase								
-Soil physical disturbance during servicing of the land and construction activities	-Erosion -Proliferation of tracks -Negative excavation methods such as blasting.	Local	Short	Medium	Definite	High	-Restrict construction activities on defined areas. -Proper management of stockpiles. Excavated material must be covered in stockpiles until reuse. -Restrict movement to defined areas. Use existing roads until access require limited new roads. -Use surface anchored foundations with very limited rock breaking.	Low

Urbanization/ urban growth	Physical expansion of the town	Regional	Long	Medium	Definite	Low	-All built structures should be constructed according to the local Authority bylaws to guarantee strength and longevity of structures built.	Low
Noise from land servicing activities and construction vehicles and equipment	-Nuisance and disturbance. -Noise and vibrations will also have an impact on animals such as birds and reptiles. -Birds are known to abandon their nests if subjected to continuous noise. Noise to the nearby locals and to construction workers.	Local	Short	Medium	Definite	High	- All workers on site must be equipped with ear plugs to be used when the noise becomes unbearable. - Switch off machines that are not used. - All locals must be notified about the noise construction activities on time during excavations and ground preparation, servicing of the land and any constructions beyond. - All noisy construction activities must not be carried during night time, early morning and evenings, they must be done during daytime to ensure	Low

							minimum disturbance of the nearby residents.	
-Physical destruction of vegetation through land servicing, construction activities and the upgrading and opening of new roads	-these activities may result in the removal and destruction of few trees species on site.	Local	Long Term	High	Definite	High	-Limit activity footprint and limit movement to designated areas only. Implement and monitor the Vegetation Management Plan if there is a significant destruction of the on-site and surrounding areas.	Medium/ Low
Disturbance and killing of reptiles and small animal's activities	-reptiles and small animals in the locality are bound and likely to be affected	Local	Tempor ary term	Low	probable	medium	-Forbid indiscriminate killing of animals and reptiles.	Low
Disturbance through noise, movement and temporary occupation of an otherwise less disturbed habitat	-negatively affect local animals and birds if any	Regional	Tempor ary	medium	Highly probable	High	-Minimum disturbance of local environment by ensuring operations does not produce extreme noise that negatively affect nearby animals and birds. - Switch off machines that are not used.	Medium

Archaeological Landscape	-Visual degradation	Local	Long term	Medium	Improbable	Medium	-Demarcate, protect and avoid development near sites. If removal is inevitable, apply at Heritage Council via an archaeologist.	Low
Change in topography/ landscape character	-Use of caterpillars for servicing (roads construction and paving of the site)	Local	Long term	Medium	Probable	High	-Refill all the pits dug to ensure that there are no pits left open on site and creating a new paved landscape (use of cement interlocks)	Low
Environmental contamination by hydrocarbons release into the environment (grease, oils, fuel spills and leakages from machinery and fugitive wastes.)	There will be no storage of oils and fuel on site according to the engaged contractors, however there is risk of spillage of hydrocarbons from vehicles and machinery operations, maintenance	local	Short Term	Medium	Probable	Medium	-Implement a maintenance programme to ensure all vehicles, machinery and equipment are and remain in proper working order -Vehicle maintenance should be Conducted in designated areas only, preferably off-site. If maintenance is to be conducted on site, these areas should be designed to contain spillages i.e. maintenance site must be bundled and paved and the use	-Low

	through leakages and spillages which may result in: -Washing away of contaminated soils by rains into nearby rivers -Pollution of soil and affecting small living organisms habituating the soil -Result in possible groundwater pollution. -Possible fire risk on and around the site						of chemicals must be controlled. -Waste oil, fuels and other chemicals from drip trays on stationery vehicles and machinery will be disposed of as hazardous waste at a licensed facility by a specialist hazardous waste handler. -Oil residue will be treated with oil absorbent material such as Drizit or bio-remediation and removed to an approved waste disposal site -Spill kits will be easily accessible and workers will be trained in the use thereof. -Staff and contractors will be trained in the handling and storage of oils, fuels, chemicals and other hazardous substances -No bins containing organic solvents such as paint and thinners shall be cleaned on	

							site, unless containers for liquid waste disposal are provided on site.	
Land Pollution	-Negative effect on the ecosystem when waste emanating from construction activities is not managed properly.	Local	Temporary	Medium	Probable	Medium	- Ensure that all waste (stockpiles) from construction activities must be stored and contained in designated containers and transported to Keetmanshoop Waste Disposal Site for proper disposal. - Adequate mobile toilets must be provided at the construction camps for the use of the workers.	Low
Dust from the general servicing of the land and construction activities	-Respiratory sicknesses can result from prolonged exposure to dust -Dust can negative affect the ecosystem in general and the nearby residents	Local	Temporary	High	Probable	Medium	-Equip all the workers exposed to dust with dust masks -Water spray all the areas that are sources of dust to minimize dust. - Minimize activities that can generate dust during windy days. - Limit the speed within the whole construction area to a	Low

	-it also causes general pollution of the air						maximum of 10 km/h to avoid excessive generation of dust - Dust will significantly be reduced if excavation and land clearing is carried out after it has rained and the soil is wet or dust suppression can be done	
Employment opportunities during the servicing and construction phases of the development	-The general servicing and al construction activities create job opportunities both to the locals, regional and national, this will have a positive economic impact on surrounding Communities and technical companies involved	Regional	Tempor ary	Low	Highly probable	high	-The Project Manager should make it mandatory to contractors that all unskilled work should be given to the locals.	high

The spread of HIV/AIDS and others STDs throughout the construction phase of the project.	-The huge inflow of employees and other people can result in the spread of HIV/AIDS, other STDs	Local	Long term	Medium	Highly probable	Low	-Awareness at workplace and provision of condoms -Massive education of the employees and the general public on the importance of having protective sex	Low
Operational Phase								
Pollution from solid waste and sewerage	-Failure to manage waste properly result in general pollution of the environment and this might have a detrimental impact on the people's well-being and the quality of the environment	Local	Long term	Low	Highly probable	Medium	-The erven must be serviced and connected to Keetmanshoop Town Council Sewer reticulation system whose manhole for connection is less that 10m from the Erven. -Regular collection of solid waste by the municipal -Provisions of domestic solid waste collection bins to the residents	Low
Population influx	-Results in social tensions and an increase	-Local	-long term	Medium	Definite	High	-Educate employees on social integration and sexual behaviour	Medium

	infections of sexually transmitted diseases particularly HIV and AIDS, and other STDs.							
Social integration	Potential for conflict between people of different backgrounds and cultural beliefs.	Local	Short Term	Medium	Probable	Medium	-Public relations should adequately address the integrated societal values and morals	Low
Community development	Employment creation	Regional	Long term	High	Definite	High	-Promote local businesses and employ locals	High

5.4. RISK ANALYSIS

Based on the impacts identified by this study during site visit, process analysis, desk study and stakeholder consultations conducted, an integrated environmental risk analysis was carried out using the DEFRA Guidelines for Environmental Risk Assessment and Management 'Green Leaves III' (latest edition) as well as the international Procedures for best practices. The risk analysis shows that the project will have some negative impacts on the environment (Biophysical, economic, social and political), it has been also noted that the project will deliver some positive impacts on the receiving environment, as well as on social and economic aspects. However, it is imperative to note that the project is being undertaken within an already disturbed locale. In order to prevent or mitigate negative impacts and to increase positive impacts a coordinated project management strategy according to an Environmental Management Plan, developed specific to this development.

Appendix A: References

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