ENVIRONMENTAL SCOPING REPORT

2021

Detail Design, Tender Documentation, Contract Administration and site Supervision for the Upgrading to Low Volume Seal Standards of DR1635 Du Plessis Plaas to DR1668 Epukiro (47km), Omaheke Region.

ELEMENT
Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

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1. INTRODUCTION

The Roads Authority of Namibia appointed Element Consulting Engineers (Pty) Ltd to perform consultancy services for the detail design, tender documentation, contract administration and site supervision for the upgrading to Low Volume Seal standards of DR1635 and DR1668 between Du Plessis Plaas and Epukiro in the Omaheke Region. Enviro Management Consultants Namibia therefore was appointed by Element Consulting Engineers to facilitate the Environmental Impact Assessment Process as required by the Environmental Management Act No.7 of 2007.

DR1635 starts from the intersection on TR14/1 at Du Plessis Plaas, it then proceeds until it intersects DR1668 approximately 28.8 km from the intersection on TR14/1. From this intersection the route continues as DR1668 eastwards for 19 km up to Epukiro where the alignment intersects with MR113, which continues through the settlement, and MR85 that runs in a northerly direction. The 28.8 km section of DR1635 and the 19 km section of DR1668 constitute the route to be upgraded to Low Volume Seal standards on this Project.

The objectives of this project can therefore be summarized as follows:

- Improve road transport efficiency,
- Improve rural accessibility,
- Reduce road user costs,
- Reduce travelling time,
- Reduce road maintenance costs,
- Improve general network, inter-regional and international connectivity.

The upgrading will generally entail the following:

- The upgrading to Low Volume Seal standards of the road, including vertical and horizontal alignment,
- The upgrading of all intersections in accordance with the relevant specifications,
- Improvement of the drainage facilities along the route,
- The establishment of road furniture,
- The establishment and proper demarcation of the 60 m wide road reserve.

The road will be constructed using conventional mechanized road construction methods. Certain portions of the work will however be sub-contracted to SME contractors using labour-optimized construction methods in order to provide work for the local community.

A site visit was conducted on the 23rd and 24th of August 2016 to determine the possible sensitivity of the area. Due to the fact that the existing alignment will be used during the proposed project it is envisaged that there will be limited negative impacts associated with this project.

There were no environmental specialist investigations conducted for the purpose of this Environmental Assessment Report.

2. POLICY, LEGAL AND ADMINISTRATIVE FRAMEWORK

This section deals with the regulatory requirements that are applicable to this project.

NAMIBIAN LEGISLATIVE FRAMEWORK

During the preparation of the Scoping Report, the following legislative and policies were considered:

- Environmental Management Act, 2007; Act 7 of 2007 ;
- Environmental Regulations of 2012;
- Roads Authority Environmental Manual

The activities listed in Table 2, as contained in Appendix B of the Republic of Namibia's Environmental Regulations, may be applicable and will require Environmental Clearance.

Table 1: Listed Activities in Terms of the Environmental Management Act

Activity No.	Activity Description
10.2	The route determination of roads and design of associated physical infrastructure where - (a) it is a public road; (b) the road reserve is wider than 30 meters; or (c) the road caters for more than one lane of traffic in both directions.

Currently, Environmental Impact Assessments are guided and reviewed by the Directorate of Environmental Affairs (DEA) in the Ministry of Environment and Tourism. Guidelines for various projects have been compiled to help improve EIA practice in Namibia.

There are a number of sector laws in Namibia that have relevance to Scoping and EIAs. The following table provides a summary of the relevant sector legislation.

Table 2: Legislation relevant to the Project

Statute	Provisions	Project Implications
Forest Act 12 of 2001	Provision for the protection of natural vegetation. No regulations promulgated yet. Section 22(1): It is unlawful for any person to "*cut, destroy or remove:* • any living tree, bush or shrub growing within 100 meters from a river, stream or watercourse on land that is not part of a surveyed erf or a local authority area without a license. • Vegetation which is on a sand dune or drifting sand or on a gully unless the cutting, destruction or removal is done for the purpose of stabilizing the sand or gully.	• Permits should be obtained from Department of Forestry for the removal of protected trees.
National Heritage Act 27 of 2004	Heritage resources to be conserved in development.	All archaeological sites to be identified and protected.
Nature Conservation Ordinance 4 of 1975	Requires a permit for picking (the definition of "picking" includes damage or destroy) protected plants without a permit.	In case there is an intention to remove protected species, then permits will be required.
Preservation of Trees and Forests Ordinance	Protection to tree species.	The Contractor will require a permit to remove any protected trees.
Soil Conservation Act 76 of 1969	Prevention and combating of soil erosion; conservation, improvement and manner of use of soil and vegetation, and protection of water sources. The Minister may direct owners or land occupiers in respect of *inter alia* water courses. No Regulations exist to this effect.	Removals of vegetation cover to be avoided and minimized at all costs. Soil pollution to be avoided.
Water Resources Management Act 24 of 2004	Section 32 states that no person may abstract or use water, except in accordance with a license issued under this Act. Abstraction of water including open waters, aquifer, brackish or marine water. Section 46 states that any drilling to be conducted or enlargement of an existing borehole can only be conducted under a permit issued under the Act. Section 56 states that a person may not discharge any effluent directly	Obligation not to pollute surface water bodies. The following permits are required in terms of the Water Act: • water abstraction permits that will form part of the contract obligations.

Statute	Provisions	Project Implications
	or indirectly to any water resource on or under the ground or construct any effluent treatment facility or disposal site unless in compliance with a permit issued under Section 60 of the Act. Where "effluent" means any liquid discharge as a result of domestic, commercial, industrial or agricultural activities. Section 78 states that a person may not engage in any construction activity that impounds, blocks or otherwise impedes the flow of water in a watercourse without the Minister's written approval authorising such activity.	
Public Health Act 36 of 1919	Provides for the prevention of pollution of public water supplies.	A general obligation for the Contractor not to pollute the water bodies in the area.

A flowchart indicating the entire Scoping/EIA process is shown in *Figure 1:*

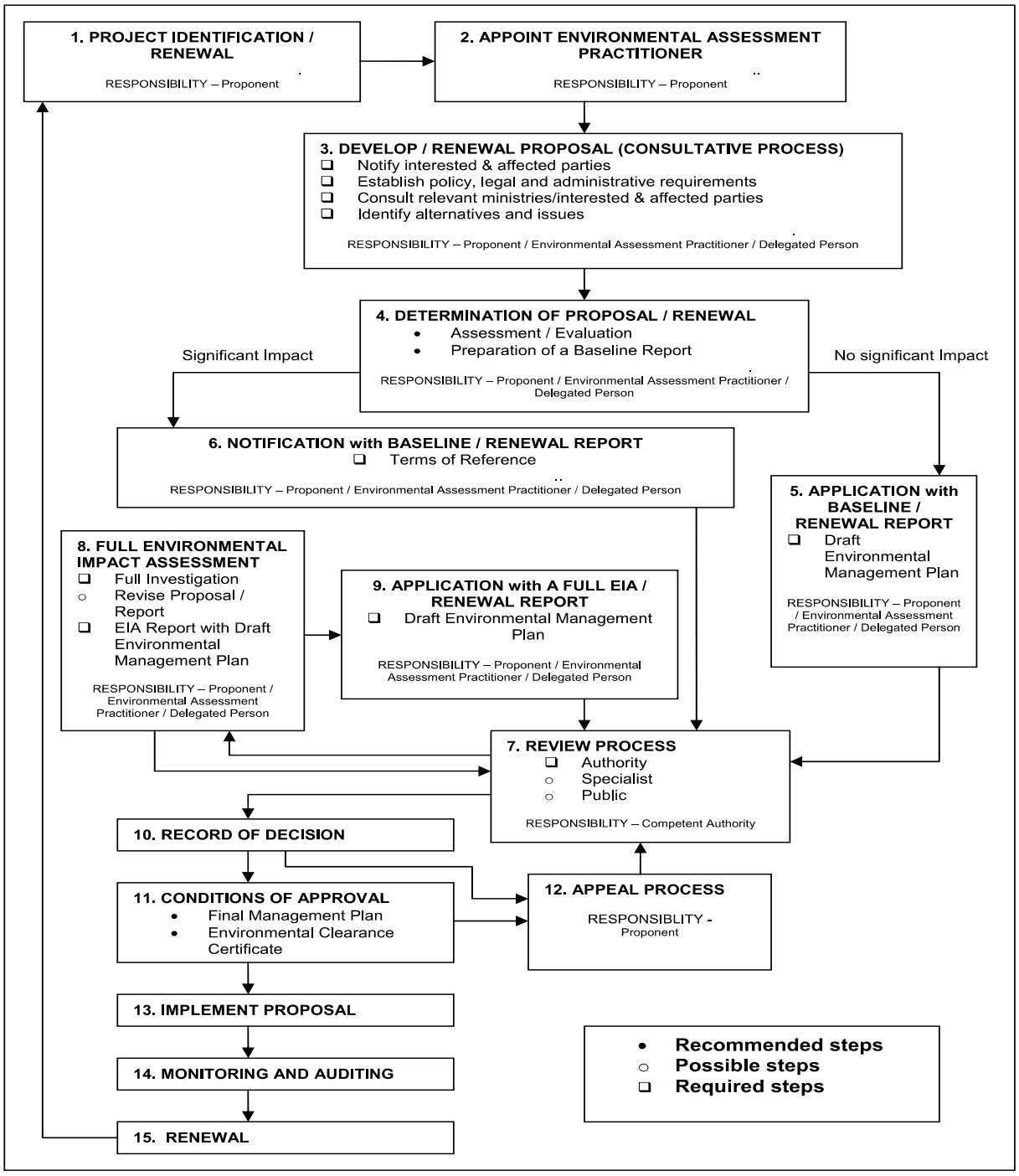


Figure 1: EIA Procedure

3. PROJECT DESCRIPTION

The proposed link road between Epukiro and Du Plessis Plaas traverses the Omaheke region, which are located in the eastern-central part of Namibia and connect at Gobabis via TR14/1 to the Southern African Regional Trunk Road (TR6/2) linking Mozambique, South Africa and Botswana with Angola through Namibia.

The Omaheke Region forms part of the northern Kalahari zone, which is flat and sandy with permanent dunes in the eastern part of Namibia. With total area coverage of 84,612 km², the region is divided into seven constituencies: Otjinene, Epukiro, Otjombinde, Steinhausen, Gobabis, Kalahari, and Aminuis, with the region's capital (and only municipality) and Regional Council in Gobabis. Most of western, central, and south-western Omaheke is occupied by privately-owned freehold farms comprising about 900 households.

There are also 924 settlement areas, with the majority being traditional villages. DR1635 and DR1668, the roads between Du Plessis Plaas and Epukiro was proclaimed by the then Department of Transport in 1977 and 1954 respectively, it is located in the Omaheke region and service various commercial, resettlement and communal farms. The two roads also provide a vital link between Epukiro, an important settlement with various facilities like schools, clinics and satellite ministerial offices in the Omaheke region and Gobabis, the capital of the region.

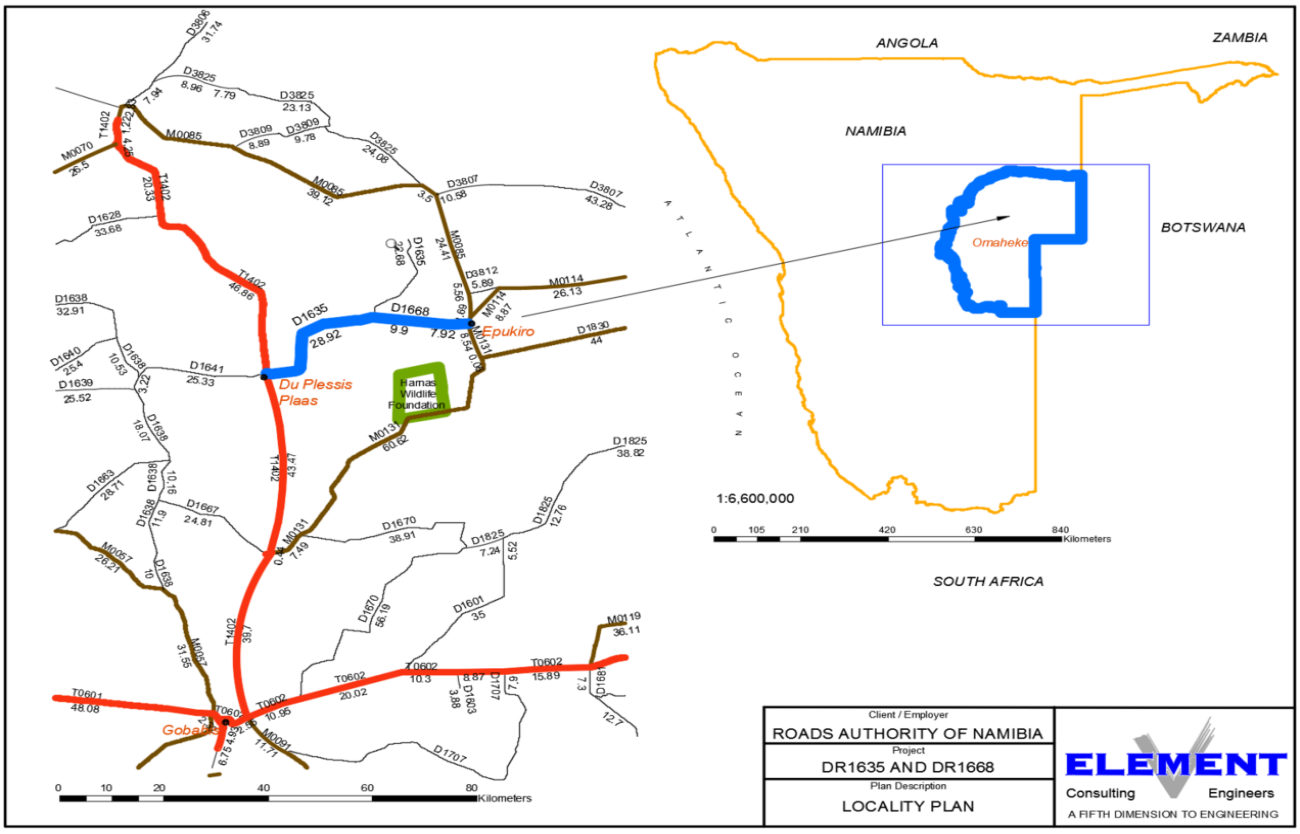


Figure 2: Locality Plan

The Omaheke region has, according to the 2011 population and housing census carried out by the Government of Namibia, a surface area of 84 981km2 and an estimated population of 70 800, with

an average density of 0.8 persons per km^2. The economy of the Omaheke region is driven by a strong cattle-producing industry.

Commercial cattle farming, found within the western areas of the region, are well developed and are the region's major economic income generator. Communal farming, in the eastern parts of the region is generally neglected in terms of basic infrastructure. Large areas of the communal farming sector are deprived of adequate access roads, water, electricity provision and telecommunications, which are seriously hampering the economic development in those areas.

4. EXISTING ROUTE DESCRIPTION

DR1635 starts at the intersection on TR14/1 at Du Plessis Plaas, thereafter it follows an easterly direction for 6 km before turning northerly, after about 11 km it again turns easterly and after another 11 km it intersects onto DR1668. At this point DR1635 turn north and continue onwards for an additional 22.86km, this last 22.86km will not form part of this design.

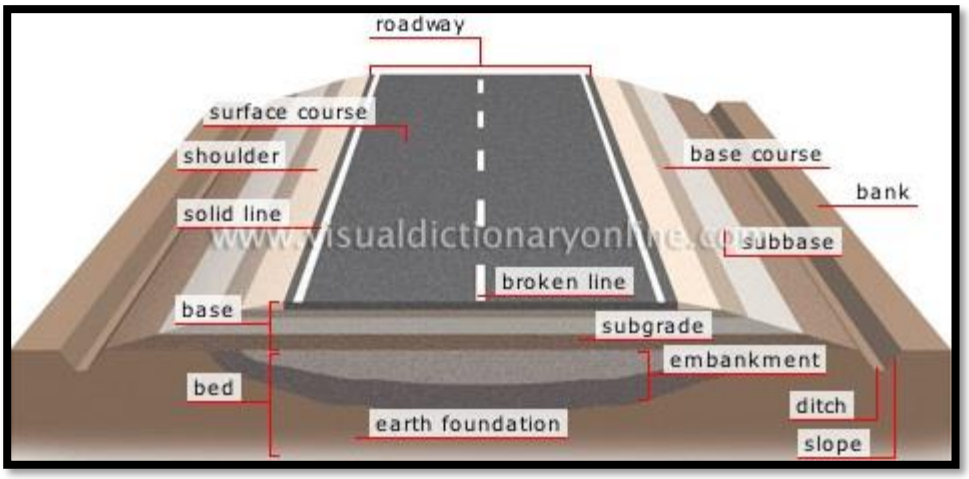
Where DR1635 turns north, approximately 28.98 km from the intersection on TR14/1, the route continues toward Epukiro as DR1668. From this intersection with DR1635, DR1668 continue eastwards for 19 km up to Epukiro where the alignment intersects MR113, which continues through the settlement. MR85 which runs in a northerly direction also intersects DR1668 in Epukiro.

There is no storm water structures provided for on the existing roads. The storm water is mainly accommodated by means of drift like low points on the road. There will definitely be a need for provisions of new culverts on the proposed new road.

The existing DR1635 and DR1668 cross the Epukiro Omuramba at 2 places. According to preliminary indications, substantial structures need to be provided to accommodate the 1 in 25 year flood. There are also a number of smaller feeder streams crossing DR1635 and DR1668 that will need smaller structures. After the visual assessment of the position of likely drainage structures and consultation with the local communities on the history of the river flow regime, it was established that the installation of box culvert structures, at the mentioned Omuramba crossings, would be adequate. However, this assumption will be confirmed during the final design stage.

5. ROAD CONSTRUCTION DESCRIPTION

The following picture represents the typical bitumen road cross section applicable to this project and is discussed below.



Sub Base:

- It is layer of granular material provided above subgrade generally natural gravel. It is usually not provided on subgrade of good quality. This material is normally obtained from borrow pits alongside the planned route.

Base course:

- It is the layer immediately under the wearing surface (Applies whether the wearing surface is bituminous or cements concrete and or more inches thick or is but a thin bituminous layer).
- As base course lies close under the pavement surface it is subjected to severe loading. The material in a base course must be of extremely high quality and its construction must be done carefully. Normally this material is obtained from a commercial source, or if suitable material is available from borrow pits a crushing plant is erected to conduct crushing and screening.

Surface/Wearing Course in pavement cross section:

The top layers of pavement which is in direct contact with the wheel of the vehicle. Usually constructed of material in which bitumen is used as binder materials.

Bituminous Pavement:

For good service throughout the full life bituminous pavement must retain following qualities.

- Freedom from cracking or ravelling.
- Resistance to weather including the effect of surface water heat and cold.
- Resistance to internal moisture, particularly to water vapours.
- Tight impermeable surface or porous surface (if either is needed for contained stability of underlying base or subgrade).
- Smooth riding and none skidding surface.

The design should be done so that to meet the above requirements for considerable number of years (need proper design and construction supervision).[1]

5.1 Borrow Pits

Suitable material is needed for the Sub and Base layers during the construction of the road. Filling material is also required to ensure vertical alignment of the road is according to engineering standards required in Namibia.

To achieve the abovementioned, suitable material is required from borrow pits. These pits are opened using various heavy duty machines and the material is hauled from the pit to the required sections of the road where the material is needed. It is imperative that the material excavated fits the engineering standards required for the construction of the road and is therefore tested on a regular basis.

Another important issue is hauling distance. The borrow pits cannot be situated too far from the section of the road where the material is needed, therefore borrow pits cannot be located too far apart (incurring costs due to hauling).

It is anticipated that a total of 11 borrow pits will be used for the purpose of this project where suitable materials will be obtained for the layer works. **Please refer to Appendix E**.

5.2 Construction Water Requirements

There are no perennial water sources in the project area and boreholes are the only source of water. Contractors must obtain the consent of relevant landowners prior to utilizing a water source and Clause B1219 of the Project Specifications contains requirements and standards related to the quality of water used for construction purposes. A water extraction license is required according to the Water Resources Management Act N0.11 of 2013.

5.3 Residues and Emissions During Construction

Due to the type of activities that are associated with the construction of roads it is very unlikely that any toxic materials will be present on site. The only risk might be hazardous hydrocarbon substances such as fuels (diesel and petrol) and oils used by the construction machines.

Bitumen might be used for sealing the newly constructed road (dependent on the chosen alternative to be followed). Bitumen in itself is a stable hydrocarbon substance, but the “prime” medium is very volatile and should be considered as a hazardous liquid. The cleaning of bitumen tanker nozzles and cleaning of the bitumen trucks always poses a challenge when it comes to environmental management.

Domestic and camp construction wastes generated at the contractor camps can very easily be managed due to the proximity to the existing towns of Du Plessis Plaas and Epukiro. Proper waste management principles should be enforced as stipulated by the Environmental Management Plan.

Sewage management is also a great concern at any construction camp. Proper planning of the sewage facilities should be done at the start of such a project to prevent sewage overflow and the contamination of soils and water. The number of workers should be determined, and the sewage facilities planned accordingly.

5.4 Assumptions and Limitations

It is assumed that the information provided by Consulting Team and the information in the Inception Report and other relevant documentation used for the compilation of this Environmental Report is accurate and relevant to this date. It is also assumed that the secondary data collected for the bio-physical and socio-economic environments are true and correct. These include data sources associated with printed books, data available on the internet and other studies as indicated in this report.

The Contract determined the available time and funds available to complete this project. Communication between the various team members was assured trough regular meetings.

6. ENVIRONMENTAL AND SOCIAL BACKGROUND

This section describes the bio-physical aspects of the study area to allow for identification of elements of environmental sensitivity and to provide the context for the assessment of significance of impacts related to the proposed State Veterinary Office within the environment.

6.1 Climate

The climate from du Plessis Plaas to Epukiro town is representative of the Central Highlands of Namibia and considered to be moderate to warm summers and mild to cool winter temperatures. Temperatures are moderate during the summer months ranging between 30-32 degrees Celsius and average above 20-21 degrees Celsius annually. Epukiro is also known for above Namibian average rainfall of around 400mm annually with most of the precipitation occurring during the months of November to April (Mendelsohn, 2003).

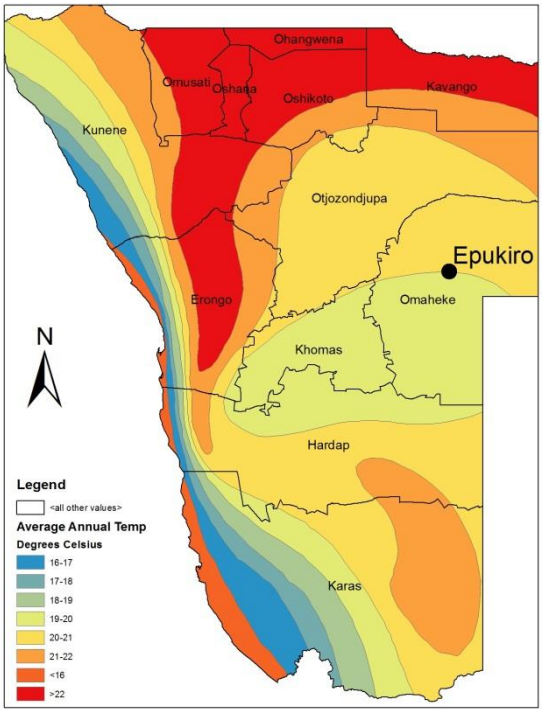


Figure 3: Average Annual Temp.

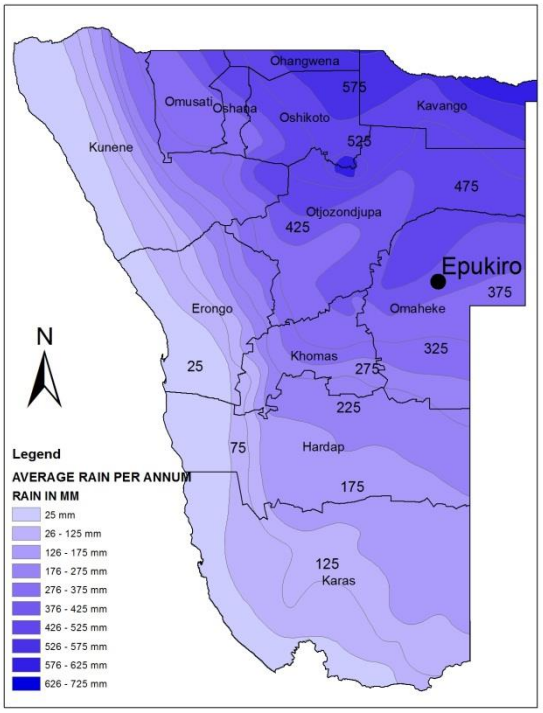


Figure 4: Average Annual Rain

The annual evaporation rate of the area is approximately 1820 – 1960 mm with a water deficit figure of 1500 – 1700 mm per annum. This makes the area very dependable on good annual rains as to avoid drought conditions

Dominant wind direction at Epukiro is from the East. The area has a 44% frequency of calm wind days which is average. This indicates that winds are probably generated during seasonal changes and during the rainy season where local climatic conditions generate winds (Mendelsohn, 2003). Wind speeds are also moderate and vary between 5 and 15 km per hour - mostly during summer.

6.2 Topography

Epukiro lies on the eastern part of the Central Plateau of Namibia on topographical heights varying between 1400 and 1500 meter above sea level.

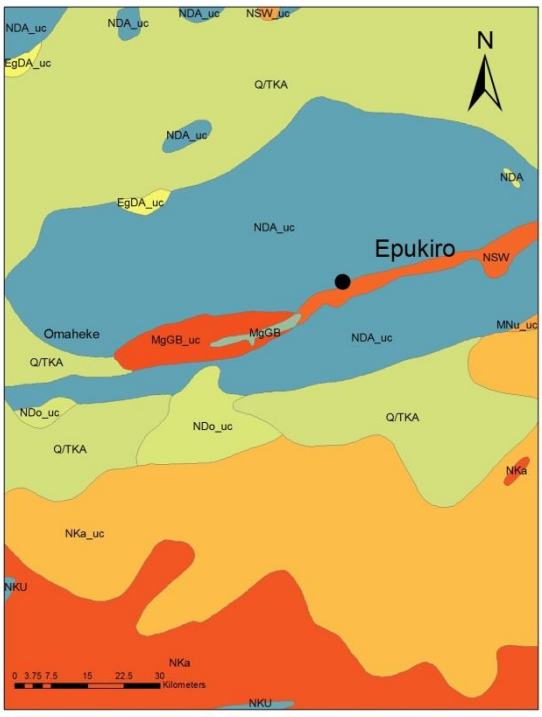
To the west of Epukiro higher points are noted with a very gentle slope towards the east

Limited topographical depressions and mountains were noted during the site visit. The only dominant topographical feature is the river that flows in an easterly direction but is situated about 2km south of the proposed site.

The topography influences various other aspects of the Epukiro area such as the general hydrology, vegetation types, aquifer water quality and even the socio-economic characteristics.

Figure 5: Topographical Characteristics

6.3 Geology



Epukiro is situated in the Damara Sequence (NDA uc) which is found in the central parts of Namibia.

The Damara Sequence underlies most of Namibia. It was deposited during successive phases of rifting, spreading, subduction and continental collision (Miller 1992). Classical geosyncline sedimentation produced a thick pile of ill-sorted sediments which formed various sub groups in the Damara Sequence.

Mendelsohn further describes the geology of the site as Damara Granites aged between 650 – 470 million years, placing this sequence in the middle of the major geological division age groups.

Some evidence were also found of residual material (quartzite) belonging the the Aubures Formation of the Sinclair Sequence, which is 1000 million years old (Geotechnical Report 2011).

Figure 6: Geology of Namibia

6.4 Surface Hydrology

The proposed site lies in the Okavango – Epukiro Basin as explained by Christelis 2001. This basin is situated in a huge flat area encompassing the entire Kavango Region and eastern parts of the Otjozondjupa and northern Omaheke. Most of the area belongs to the Okavango drainage system, including the dormant, usually dry river beds draining eastwards.

Epukiro has a major surface water drainage system (Omuramba) which travels right through the center of town in an easterly direction. The proposed site is situated approximately 1.4 km north of the Omuramba.

No signs of erosion were noted during the site visit and there are no other sources of possible surface water pollution discharge near the proposed site.

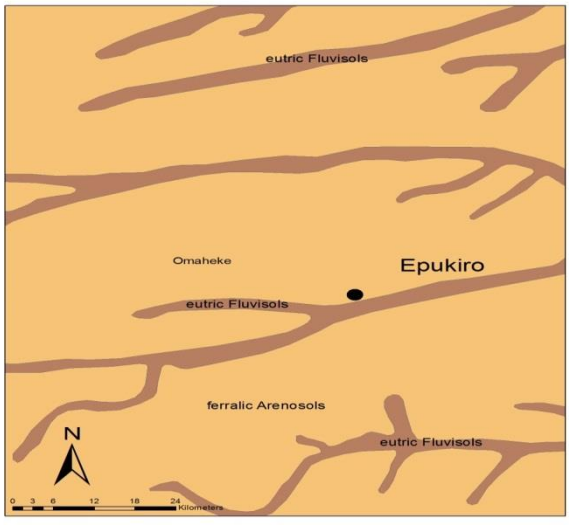
6.5 `Geohydrology

According to Christelis 2001, two distinct aquifer systems exist in the Okavango – Epukiro Basis which feeds the underground water supply. The one found at the site is the more fractured Kalahari bedrock which is normally non-saturated. But due to the fact that the Omuramba is present at Epukiro, water availability might be higher and yield potential the same.

Here, groundwater for domestic and livestock use is supplied to villages and rural communities through shallow boreholes of depths of up to 30 meters. The yield potential as indicated by Mendelsohn varies between 1 and 15 cubic litres per hour, sufficient for cattle farming and rural water supply.

The quality of the aquifer water is also good in these areas with a TDS reading of less than 1000 mg/l (Mendelsohn 2003). Therefore the aquifer can be regarded as sensitive and should be protected against pollution from construction and operation activities at the site.

6.6 Soils



Namibian soils vary greatly and different forces impact on the development of the various soils. Epukiro lies in the dominant ferralic Arenosols (high sad stratum, low nutrient content, low organic content, alkaline pH-conditions, typical for arid climate conditions with high evaporation rates and salinity)) soil group (Christelis 2001). These soils are the dominant soil type in the north-eastern part of Namibia. These soils are formed from wind-blown sand and usually extend to a depth of at least one meter, with sand generally making up more than 70% of the soil. The rest of the soil comprises of clay and silt. The sandy texture allows water to drain

through the soil rapidly resulting in low moisture available for plants and poor nutrient concentrations. The loose structure of the soil means there is little run-off and water erosion, but wind erosion dominates (Mendelsohn 2003).]

6.7 Air Quality

It is predicted that the air quality at the site will be of good quality, but will be negatively affected by the gravel road passing the proposed site. Usage of the road will contribute to dust generation and will increase due to an increase of traffic because of the services offered during construction. This will just be a nuisance and does not pose any environmental risks.

There are no other sources of air pollutants close to the proposed site.

6.8 Fauna

During the site visit limited fauna was observed. Looking at current secondary data it is also evident that diversity of various fauna species is low medium around the Epukiro area. The reason is that animals and birds are direct dependant on their habitat and according to Mendelsohn the plant diversity of the area is classified as low – medium.

From the Critically Endangered or Endangered bird species list is must be noted that the following birds should require special attention in the region (Sinclair 2009):

1. Bateleur *Terathopius ecaudatus*
2. White-headed vulture *Aegypius occipitalis*
3. Black stork *Ciconia nigra*

Mendelsohn 2003 indicates levels of diversity in various groups. These groups give an indication of the diversity found in fauna but even more indicates the variation of habitat on which these different species and genera live. The higher the index of species (high classification), the more complex the habitat can be considered to be. There will also be a strong correlation between the index of specie with regards to the diversity and the vulnerability of the habitat.

Type of Diversity	Number of	Low
	Species / genera	Medium
		High
Overall terrestrial diversity		Low
Plant diversity	50-99	Low
Bird diversity	111-140	Medium
Frog diversity	12-15	Medium
Mammal diversity	46-60	Medium
Reptile diversity	41-50	Medium
Scorpion diversity	6-9	Low

Table 3: Index of Species diversity

6.9 Flora

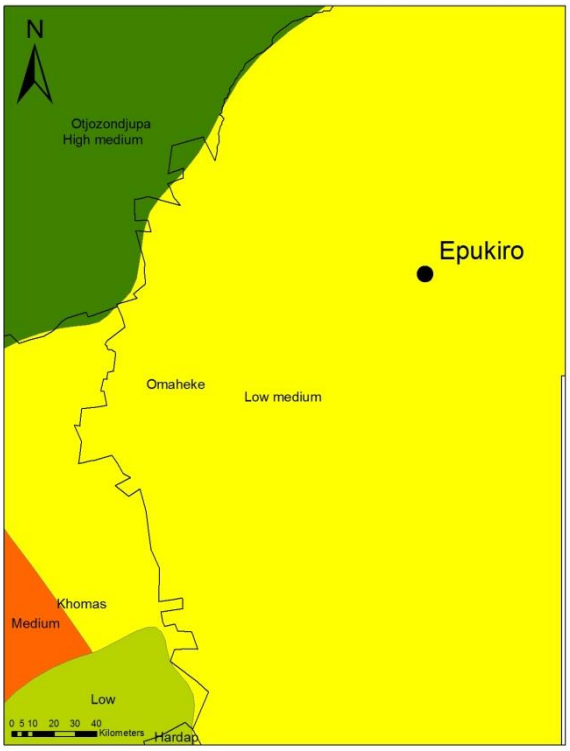


Figure 7: Plant diversity

The road from du Plesis Plaas to Epukiro is situated in the Central Kalahari Biome dominated by the *Acacia* Tree and shrub Savanna landscape (Mendelsohn 2003).

This area around Epukiro is dominated by two problem species namely: *Acacia mellifera* and *Terminalia sericea* of which both species were identified during the site visit. These two species are aggressive bush encroachers and alter the natural ecosystem of an area.

Species that were identified, but not limited to, were the following:

1. Sweet thorn - *Acacia karoo*
2. Candle-pod acacia - *Acacia hebeclada* subsp. *hebeclada*
3. Kalahari acacia - *Acacia luederitzii*
4. Black-thorn acacia - *Acacia mellifera* subs. *detinens*
5. Sickle-bush - *Dichrostachys cinerea*

Some *Acacia erioloba* species were identified on site which requires special attention due to protective status under law (Mannheimer 2009). No other species that is protected under any law was noted during the site visit.

Grasses identified at the Epukiro site are very common in these areas and include the following species:

1. Common Crowfoot — *Dactyloctenium aegyptium*
2. Feather-top Chloris — *Chloris virgate*
3. Kalahari Sour grass — *Schmiditia kalihariensis*
4. Vlei Finger grass — *Dichanthium annulatum*
5. Hairy Love grass — *Eragrostis trichophora*
6. Nine-awned grass — *Enneapogon cenchroides*
7. Rough Three-awn — *Aristida rhiniochloa*
8. Annual Three-awn — *Aristida adscensionis*
9. Bur Bristle grass — *Setaria verticillata*

These grass species are all common in these areas and no conservation status exists (Van Oudtshoorn 2002).

6.10 Socio Economic Environment

The Omaheke region can be sub–divided into two general areas: firstly the commercial farmland area, inclusive of the Trans–Kalahari Road Corridor and the major urban centre, Gobabis, secondly the rural communal areas, where almost 80% of the region's population lives.

In the communal areas the land is owned by government, controlled by traditional authorities and regional governments, and used by individual farmers. Generally, traditional leaders have control over the allocation of land to individual farmers.

The Omaheke Region can subsequently be divided between two landowners: central government in the north and private landowners in the south with small pockets of land owned by local authorities. Landowners can be divided as follows: central government (which owns 56% of the land surface area), local authorities (which owns 0.9%), and private individuals or companies (who own the remaining 43.3%). Central government land comprises largely farms used for resettlement, agriculture and other purposes.

Land use in the northern parts of the region comprises mainly small-scale agriculture on communal land, while the southern parts are dominantly used for agriculture and tourism on freehold land with pockets of land here and there for resettlement, urban areas, government and parastatal uses and government agriculture. In the eastern parts of the region, the land use is mainly large-scale agriculture on communal land.

There are approximately 3,500 communal-tenure farming households in the Omaheke region. Though food security is connected with farming, agricultural production makes only a small and, it is believed, declining contribution to average communal area household income, both actual and imputed.

The livelihood of the rural population virtually depends exclusively on livestock, especially cattle production. The region contributes about 20% to the national cattle production, 11% to sheep and 8% to goats. The communal area is largely characterized by subsistence farming activities with settlements concentrated around water points under the jurisdiction of the Department of Rural Water Supply (DRWS). Therefore, the region is a major player in the livestock industry in Namibia and therefore makes a significant contribution to the foreign exchange earnings of the country. Commercial cattle farming, found within the western areas of the region, are well developed and are the region's major economic income generator.

There is diversification of farming from cropping, both for commercial and domestic consumption purposes and diversified livestock farming, including game farming and wildlife and culture based tourism.

Trade is limited and Gobabis is the main centre in the Omaheke area with established industry. However, no large-scale mining takes place within the Omaheke Region. The saltpans found within the area cannot be economically exploited on a large scale.

6.11 Social Development

This section presents current demographic and social development indicators for Omaheke Region as indicated in Table 4. These include population size, annual growth rates, literacy rates and access to safe water and sanitation, amongst others, using data from the Namibian Population and Housing Survey of 2011.

Table 4: Current Demographic and social development indicators for Omaheke

Demographic composition	**Omaheke**	**Namibia**
Total population	71 233	2 113 077
Ratio of males per 100 females	109	94
Population Density (persons/km^2)	0.8	2.6
Annual population growth rate (%)	0.5	1.4
Urbanisation level (%)	29.8	49.6
Median age	21	21
Socio-economic status		
% Households with Electricity for Lighting	33.4	42.3
% Households with access to Safe water	85.1	80
% Households with access to Toilet (private and flushing)	23.3	24.8
Literacy rate (for population aged 5 and above)	70.7	85.3
# total schools	41	1700

According to the Namibian 2011 population and housing census, the population of Omaheke Region was estimated to be 71 233, which is only 3.4% of the total population of Namibia. The population density is also very low at only 0.8 persons/km^2, compared to a national average of 2.6 persons/km^2.

The Omaheke region has the lowest population growth rate in the country, at 0.5%, whereas the national annual population growth rate is at 1.4%.The urbanization level in Omaheke Region (29.8%), is also lower than the national average (49.6%).

With 109 males for every 100 females, there are slightly more men than women in the region. The national average proportion of males to a 100 females is 94. The median age in Omaheke region is the same as the national median age, which is 21 years old, according to the Population and Housing Census of 2011. In Omaheke, the literacy rate (for population aged 5 years and above) is lower (at 70.7%) than the national average of 85.3%.

Only 33.4% of all households use electricity for lighting in Omaheke region, compared to a national average of 42.3%. In terms of water and sanitation, 85.1% of all households in Omaheke region have access to safe water, and 23.3% of all households have private flushing toilets. The national statistics for households with safe water and private flushing toilets are 80.0% and 24.8%, respectively.

Road safety statistics for Omaheke region are a cause for concern. According to the 2012 Road Accidents Statistics Report, the overall risk of a person dying in a road crash in Omaheke region is about 1.82 people per 10 000 people. Table 3 shows the regional distribution of road deaths per 10 000 people.

Table 5: Regional distribution of road deaths per 10000 populations

Region	**Road fatalities per 10 000 people**
Karas	0.48
Omusati	0.88
Oshana	1.09
Ohangwena	1.27
Hardap	1.56
Omaheke	1.82
Zambezi	2.02
Khomas	2.09
Kavango East/Kavango West	2.13
Oshikoto	2.28
Kunene	2.82
Otjozondjupa	3.21
Erongo	3.50

The fatality rate for Omaheke region is in the mid-range, whereby the lowest road fatality of 0.48 people per 10 000 people was recorded in Karas region, and the highest fatality rate of 3.5 people per 10 000 people was recorded in Erongo region. Adequate safety measures should be put in place to reduce the risk of accidents on this new road.

7. PUBLIC PARTICIPATION PROCESS

From the start of the project it was clear that there are not any significant negative environmental or socio-economic impacts associated with this project. This is mainly due to the fact that the new road will be constructed on the existing alignment. It is very important to note that this proposed road from du Plessis Plaas to Epukiro will be upgraded through land which is owned by the Government of Namibia. The upgrading of the road will have a positive socio-economic effect on the communities.

The public participation process was undertaken in accordance with the principles and requirements of the Namibian Environmental Management Act, No 7 of 2007 and associated Regulations.

The approach to the public participation process was open and participatory with the full involvement of Interested and Affected Parties (IAPs). This approach ensured that reasonable measures were taken to identify stakeholder issues and concerns.

The Methodology for the Public Participation was as follows:

The first meeting was conducted on the 1st June 2021 at the Epukiro Regional Council Office in Epukiro. During this meeting the Councilor was informed about this project. A very positive response was portrayed with regards to the prospect of the study. The second meeting was also held on the 1st June 2021 at Du Plessis Plaas @ 14:43. The community and leaders were very positive about the proposed upgrading of the existing gravel road to low volume seal.

The proposed upgrading of the road was advertised twice in three different newspapers as to comply with the Environmental Management act No.7 of 2007 and the applicable Environmental Regulations.

The advertisements were placed in the Market Watch section of the following newspapers;

The Sun:	Tuesday 11th May 2021
	Tuesday 18th May 2021
The Republikein:	Tuesday 11th May 2021
	Tuesday 18th May 2021
Allgemeine Zeitung	Tuesday 11th May 2021
	Tuesday 18th May 2021

There were no comments received after the notifications placed in the newspapers.

PICTURES TAKEN DURING THE PUBLIC MEETING

EPUKIRO

DU PLESSIS PLAAS

A FULL LIST OF MEETING MINUTES AS WELL AS ATTENDANCE LISTS ARE ATTACHED IN APPENDIX F – PUBLIC PARTICIPATION PROCESS

The following comments were raised and answered during the two public meetings. The first table represents the comments from Epukiro and the second from Du Plessis Plaas:

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
COMMENTS FROM THE EPUKIRO MEETING				
1	Regarding the Low Volume Seal – the traffic numbers on this road are low because the road is in a bad condition. We don't have the statistics.	Honourable Ignatius Kariseb	The intention was to do a full upgrade, unfortunately the project was halted due to various other priorities. Our Line Minister and our CEO Mr. Lutombi are pushing the revival of this project, not as full bitumen but as low volume. Budget constraints are the biggest issue, but Mr Lutombi intends to push funding while phased construction is ongoing. We hope to appoint a contractor in the next 2 – 3 months. SME employment is a burning issue, if there are local SME's they should benefit from this project. If the contractor comes, we can talk to them about their social responsibility.	Benson Namupala
2	Employment of SME's, in my 11th year as Regional Councillor and I am still not convinced how local communities with benefit from this project. From past experience, SME's from other areas make use of local post-box numbers and pretend that they are from this area and take work away from local communities. How can this be prevented?			
3	Could we ask the contractor to do some upgrades at some of the offices in Epukiro? Such as paving in front of the regional office building as part of their social responsibility.			
4	I propose that the contractor consults with the Councillor's Office to confirm that SME's are from the area when hiring them.	Honourable Ignatius Kariseb	That is definitely something that should be considered.	Benson Namupala
5	Is there a Feasibility Study report about this road available at the Councillor's Office? This road is situated in two constituencies. Why can't the road start at Epukiro instead of Du Plessis Plaas and why are only 8km constructed?	Hiskia Shashishwa	I am not aware that a Feasibility Study was done, but a Design Report was done for the entire road, and it will be treated as such, but it is being implemented in phases. The start of the road at Du Plessis Plaas is due to the logistical practicality of the project, such as hauling material for construction (culverts, aggregate, etc), it is the closest. The Design Report is for the full bitumen upgrade done in 2016 and will be available at the Councillor's Office.	Peet Bezuidenhout Benson Namupala
6	I am concerned about the short distance that will be upgraded. We have waited for such a long time. When will the project start?	Spee Kashipua	There is only N$26 million available now, our hands are tied and that is the reason we are only doing short distances now. 2 – 3 months from now. The tender needs to be advertised, evaluated, and approved/awarded and we need to obtain the ECC to commence	Peet Bezuidenhout Benson Namupala

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
			with this project.	
7	The work for SME's – will it be advertised? If it is advertised, can anyone apply, will it be advertised nationally or locally? If I am originally from Epukiro, but I have a postal address in Windhoek am I still eligible to apply?	Claudia Kamandume	This will always be a burning issue. On other projects, SME's from the same region have been employed, they went to the Governor's Office to register there as SME's and the contractor used this list to employ SME's. I would recommend that SME's register with the Councillor's Office and the contractor gets referred to the Councillor's Office when looking to employ SME's. Perhaps by getting a letter from the Councillor's Office to confirm that you are a local SME. The issue is that although we want the local community to benefit, others might feel that because they are Namibian citizens, they are also eligible to apply. The other issue is that if the contractor is told to use one certain SME, the moment they don't perform they will say that it is the SME who is not performing and not their fault. That's why I say that we need to make use of the Office of the Regional Councillor, so that even if you have a P.O. Box number in a different town, the Councillor will know that you are from this area. We took a resolution 2 months ago as a Regional Council that the locals must benefit.	Peet Bezuidenhout Benson Namupala Honourable Ignatius Kariseb
8	My concern is that projects have been stopped in the past because people are employed without contracts and that these issues will end up at the police station when employees don't know what date their salaries area being paid or they don't get paid, etc. A message to the community, we cannot be the cause of the delay of this project. For example, when workers are making misuse of equipment/plant for private purposes, finishing fuel, and causing construction delays by doing so.	Station Commander Efraem Tjhumino	Contractors should abide by the labour law and therefore they should have contracts with their employees and pay them their salaries on time and as specified in the contract. If there are problems with that, we cannot handle those issues, it needs to get to referred to the labour department. Fuel theft is the biggest issue on a construction site, contractors struggle with this constantly, and it affects the construction progress. In 2 – 3 months when we have appointed a contractor, we (RA and Consultant) will comeback with the contractor to introduce the contractor to the Councillor and to discuss the issues and concerns.	Peet Bezuidenhout Benson Namupala

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
9	What is going to happen to our buildings, fences, and camps next to the road?		Specifications as they are, the road reserve is 60m wide - fences 30m from centreline, buildings 50m from centreline. If we go through settlements we make arrangements with the RA to reduce that if there are existing structures, we try to make provisions not to move structures.	Peet Bezuidenhout
10	For how many years will this road construction take place?		Construction for the first 8km will take 5.5months (approximately 6 months for 10km of road construction). Construction of entire road would probably take 2.5 – 3 years. Long term plans are to upgrade the road to Gam as well, but for now we focus on the Du Plessis Plaas – Epukiro road.	Peet Bezuidenhout
11	At least 85% of unskilled labour component should come from both constituencies. What is going to happen about the skilled people in this area?		If skilled labour is available in the area, the contractor will employ local. Most of the time the plant come with operators, but other skilled labour available will be used. A list of names should be prepared by the Regional Council from which the contractor can draw, this list should indicate skilled / unskilled labour and type of skill.	Peet Bezuidenhout
12	Low Volume Seal is a concern, is it really viable in the long term? Why are we rushing the road and not waiting for enough funds for a high volume road? We don't want the road to perish within 10 years. The road between Drimiopsis and Du Plessis Plaas is already damaged and not even 15 years old.	Alfons Ndalemapo	The question was put to the CEO, if community wants a high volume road, it may take another 15 years, let's use the opportunity and what is available now and upgrade later. Don't confuse low volume standard with low quality. It is suitable for lower traffic volumes. Low volume seal means it is constructed to a lower standard with regards to layer works, width of road, etc. If there were a lot of trucks on this road, we wouldn't be able to do LVS.	Benson Namupala Peet Bezuidenhout
13	Where does the road stop in Epukiro?	Kavee Kauaa	Not certain yet, by the time we get to Epukiro it might change and might go through Epukiro, but it will depend on funds available at the time.	Peet Bezuidenhout

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
COMMENTS FROM THE DU PLESSIS PLAAS MEETING				
1	Speaking from experience, the work on roads being constructed is being taken away from locals by people from outside, who pretend that they area from this area. My proposal is to let the Regional Council / Councillor do the appointments. It should be made a priority that people from this constituency should be employed on the project so that the local communities can benefit.	Honourable Ignatius Kariseb	The SME part of the project is a burning issue, everyone looks at it from a different perspective. People from all over the country feel that they are citizens and are allowed to participate, but we are of the opinion that the people from the affected communities should get the benefit in terms of employment and as SME's, if the capacity is there. Our CEO is also saying let the people from the area benefit first. We would like to include this in our bid advertisement, so that contractors know what the expectation is and we need to write it into the contract of the contractor. The principal will be that local SME's should be targeted by the contractor. It has been proposed to Councillors that they create a list with local SME names from which the contractor can draw.	Benson Namupala Peet Bezuidenhout
2	The good thing in this constituency is that people have experience from working on the Gobabis – Grootfontein road (Basil Reed & Taupele), 80% of people here are skilled.	Honourable Ignatius Kariseb	It is good to know that there are so many people here that have experience in road construction, it is to our advantage	Benson Namupala
3	Number of people recruited on the 8km?	Venantius Karabo	It is a small project and we cannot answer that now, but it depends on the contractor and the plant that they are bringing	Peet Bezuidenhout
4	People from the area skilled and unskilled should be employed on the project and people from outside should not be brought in.	Honourable Ignatius Kariseb	We wish we could resolve all unemployment issues, but we can't. You could do a labour-based road, but it is more expensive, and the quality is less. There are certain aspects during the construction that require more labour for which people will be employed.	Rian du Toit Peet Bezuidenhout
5	Was it considered to extend the road to Epukiro RC. There is a school and a clinic, ambulances need easier access. What is the recruitment process? 80% of the road is in Okorukambe constituency, don't employ people from other areas.	Venantius Karabo	Road to Epukiro RC is not part of our scope, but it could become part as the RA's policy is to provide access to all social, health and educational facilities. It will be presented to the RA.	Peet Bezuidenhout

No.	ISSUE	RAISED BY	RESPONSE PROVIDED	PROVIDED BY
6	Where will the RA get water? Have boreholes been selected? There is a borehole at Epukiro RC which has got water, but no installations to pump water.	Donald Tshwaro	It was looked at during the design, but no boreholes were earmarked. The contractor will send someone to consult with the communities regarding available water. At water schemes the contractor will have to negotiate with the community for water. If you have water sources that could be available for construction, please convey this to the Councillor's Office. In 3 months' time we will be in a position to appoint a contractor and we (RA) will bring the CEO & contractor to site to introduce the contractor and to liase with Councillors and to discuss water and accommodation. The contractor decides where to stay and where to get water.	Peet Bezuidenhout Benson Namupala
7	What about the road construction and corona?	B.K. Langman	Ministry of Health and the contractor will need to handle that, and protocols will have to be followed.	Rian du Toit
8	Can this road not be longer than 8km?	Willie Kakujaha	There has been a lot of talk about this road, and there is little money, but let's start with these 8km.	Honourable Rocco Nguvauva

PROOF OF PLACEMENT OF ADVERTISEMENTS AND NOTICES

11 May 2021

Namibian Sun

TODAY LAWMAKERS SEEK PUBLIC MANAGEMENT SOLUTIONS - PAGE 2

Tells it all

TUESDAY

TODAY'S HEADLINES

TODAY'S BREAKING

Amupanda eyes City farms

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NOTICE OF AN ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

VACANCY

Financial Accountant

Closing Date: Tuesday, 25 May 2021

For more information, please visit:

Namibian Citizens only

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Allgemeine Zeitung
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Jou land. Jou taal. Jou koerant.
Dinsdag 11 Mei 2021
Bekende sterf ná motorfiets sandhoop tref
Psemas-eise word afgekeur
Sonder kennisgewing verwyder
IN VANDAG SE KOERANT
STADSRAAD
SPORT
BOKS
A WORKING NATION
TODAY IN
VACANCY
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AZ

Allgemeine Zeitung

Leoparden besendert: Forschungsprojekt um Sozialverhalten

Genozid-Abkommen abgelehnt

• Unzufriedene Herero und Nama verurteilen ausgehandelte Vereinbarung als PR-Coup

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DEBMARINE

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Help for relatives of Alcoholics

AL-ANON Family groups offer help for friends and relatives of alcoholics. They provide assistance for people who live with alcoholics.

Dawnmann@gmail.com

VENUE: cnr Lüderitzl and Kasino Street

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Multiple Sclerosis NAMIBIA

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Dinsdag 18 Mei 2021

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IN VANDAG SE KOERANT

NICK SERFONTEIN BETAAL WEER TOPPRYS

Psemas: 'Pensioenarisse nie geskrap'

Regstryd oor selfdegeslag-huwelike begin vandeesweek

Sodomiewet se dae dalk getel

Die minister van justisie het gister twee belangrike verslae ontvang waarin die afskaffing van 34 verouderde wette voorgestel word.

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JOIN US FOR THE 2021 NAMMED ANNUAL GENERAL MEETING

TENDER

DEBMARINE

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT

Multiple Sclerosis NAMIBIA

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Namibian Sun
TODAY | CAPRICORN FOUNDATION COMMITS TO EDUCATION - PAGE 2
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NOTICES DISPALYED ON SITE

Okorukambe Constituency Office

Epukiro Constituency Office

8. ENVIRONMENTAL IMPACTS ASSESSMENT PROCESS

It is important to understand the gist of any project as to understand the possible environmental impacts associated with such a project. The following activities are generically associated with the construction of a road. These activities are kept in mind during the environmental impact assessment process.

- **Site establishment**
  - Demarcation of the site
  - Protection of vegetation and natural features
  - Protection of fauna
  - Protection of cultural historical aspects
  - Topsoil conservation
  - De-bushing and de-stumping
- **Site infrastructure**
  - Structures and accommodation
  - Contractors camp and lay-down areas
  - Batching plants
  - Crusher plants
  - Sand washing plants
  - Nurseries
  - Roads and access
  - Gates and fences
- **Site management**
  - Rubble and waste rock
  - Solid waste
  - Liquid waste
  - Hazardous waste
  - Pollution control
  - Implements and equipment
  - Blasting
  - Air quality
  - Noise control
  - Fire control
  - Health and Safety
- **Borrow pits and quarries**
- **Earthworks**
  - Prospecting boreholes and test pits
  - Excavations and trenches
  - Cut and fill
  - Shaping and trimming
- **Stockpiles, storage and handling**
  - Topsoil
  - Spoil
  - Vehicles and equipment
  - Fuel
  - Hazardous substances
- **Erosion control**
  - Surface water management
  - Erosion protection
- **Control of alien plants**

8.1 Environmental Impact Assessment Process

A checklist is designed to help users identify the likely significant environmental effects of proposed projects during scoping. It is to be used in conjunction with the Checklist of Criteria for Evaluating the Significance of Impacts.

There are two stages:

- **First**, identifying the potential impacts of projects;
- **Second** selecting those which are likely to be significant and therefore require most attention in the assessment.

A useful way of identifying the potential impacts of a project is to identify all the activities or sources of impact that could arise from construction, operation or decommissioning of the project, and to consider these alongside the characteristics of the project environment that could be affected, to identify where there could be interactions between them. The two parts of the Scoping Checklist have been developed to assist in this process.

Start with the checklist of questions set out below. Complete Column 2 by answering:

- yes - if the activity is likely to occur during implementation of the project;
- no - if it is not expected to occur;
- ? - if it is uncertain at this stage whether it will occur or not.

For each activity for which the answer in Column 2 is "Yes" or "?", refer to the second part of the Scoping Checklist which lists characteristics of the project environment which could be affected, and identify any which could be affected by that activity. Information will be used about the surrounding environment in order to complete this stage. Note the characteristics of the project environment that could be affected, and the nature of the potential effects in Column 3.

Finally, use Checklist of Criteria for Evaluating the Significance of Impacts to help complete Column 4.

This will identify those impacts which are expected to be significant. The questions are designed so that a "yes" answer will point towards a significant impact. It is often difficult to decide what is or is not significant but a useful simple check is to ask whether the effect is one that is of sufficient importance that it ought to be considered and have an influence on the development consent decision.

PART 1 OF THE SCOPING CHECKLIST: QUESTIONS ON PROJECT

CHARACTERISTICS

1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc)?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The quarry operations will temporarily alter the land use, land cover and, for the borrow pits - topography of the area.	Low significance because of possible mitigation measures that can be implemented. Rehabilitation of borrow pits normally return the land use to its original state.
1.2	Clearance of existing land, vegetation and buildings?	Yes	Clearing of vegetation for construction operations influencing the vegetation, soils and topography.	Clearing of vegetation is always regarded as significant when it comes to road construction. However, mitigation measures can reduce the significance of the impact.
1.3	Creation of new land uses?	No	The new road will be built mostly on the existing alignment.	Low significance.
1.4	Pre-construction investigators egg boreholes, soil testing?	No		
1.5	Construction works?	Yes	During construction aspects such as social, soil, surface water, vegetation and geology can be affected.	The existing alignment will be used therefore there are no significant impacts anticipated.
1.6	Demolition works?	Yes	The possible removal of old culverts and bridges.	Very low or no significance if the materials be removed and spoiled.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	A temporary construction camp will probably be constructed where water and waste management are the most important activities that need to be mitigated.	Should these activities not be managed, it might have a negative impact on the soils, water and health and safety of the contractor workers. No permanent changes to the area are predicted.
1.8	Above ground buildings, structures or earthworks including linear structures cut and fill or excavations?	Yes	The above ground earthworks will be regarded as primarily for the road construction.	It is anticipated that the impact will not be significant due to the flat topography of the area.
1.9	Underground works including mining or tunnelling?	No		
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures egg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		

1.15	Facilities for storage of goods or materials?	Yes	Possible storage of machines and bulk fuel.	The storage of goods or materials can be mitigated therefore limiting the significance.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	No		
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	Yes	Construction of a bypass and limited traffic increase due to movement of construction vehicles.	Low significance.
1.19	New road, rail, air, water borne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	The current alignment will be followed.	The significance will be low due to the scale and current alignment to be used.
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	There will be temporary bypasses constructed.	The significance is likely to be low due to the temporary nature of the activities.
1.21	New or diverted transmission lines or pipelines?	No		
1.22	Impoundment, damming, culverts, realignment or other changes to the hydrology of watercourses or aquifers?	Yes	New culverts will be constructed.	Should proper planning and consultation with local communities be applied, negative impacts on the hydrology of the omurambas should be limited therefore reducing the significance.
1.23	Stream crossings?	Yes	Limited rivers and streams will be crossed.	The significance is low because of the existing gravel road.
1.24	Abstraction or transfers of water from ground or surface waters?	Yes	Water will be extracted for the construction phase of the project.	Water from boreholes will be used but the significance will be low.
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The road will impact on the surface patterns.	The significance will be low due to existing culverts that will only be replaced or upgraded.
1.26	Transport of personnel or materials for construction, operation or commissioning?	Yes	Surface characteristics.	No significance.
1.27	Long term dismantling or decommissioning or restoration works?	No		
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No		
1.29	Influx of people to an area in either temporarily or permanently?	?	It is uncertain what the impact might have on the migration of people in the regions.	The significance is estimated to be low, but possible.
1.30	Introduction of alien species?	No		

1.31	Loss of native species or genetic diversity?	Yes	Surface disturbances always impact on the bio-diversity of an area.	There might be low significant impact on the genetic diversity.
1.32	Any other actions?	No		

2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2.1	Land especially undeveloped or agricultural land?	Yes	During construction, geological materials will be used for the filling. Soils will be affected and might therefore impact negatively on the agricultural land.	The significance is low. The existing alignment will be followed with some small adjustments.
2.2	Water?	Yes	Water is used for domestic and construction purposes.	The available water will be used but the significance might be low due to the volumes available.

3. Will the Project involve use, storage, transport, handling or production of substances or materials which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, and water supplies)?	Yes	Hydrocarbons always pose a risk to the environment.	Water and soils are normally affected by spillages of hydrocarbons. The significance might be high without mitigation measures.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (eg insect or water borne diseases)?	No		
3.3	Will the project affect the welfare of people eg by changing living conditions?	?	There is always a risk of altered quality with regards to living conditions of the adjacent people and the environment. This is with reference to HIV/AIDS.	The significance of such risks can be mitigated, ensuring low impact significance.
3.4	Are there especially vulnerable groups of people who could be affected by the project eg hospital patients, the elderly?	Yes	The proposed route will impact positively on the vulnerable groups due to improved mobility network and increased safety.	Positive medium significance.
3.5	Any other causes?	No		

4. Will the Project produce solid wastes during construction or operation or decommissioning?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.1	Spoil, overburden or mine wastes?	Yes	Spoils will be generated during construction affecting the aesthetics appeal of the area.	No. This activity can be mitigated very successfully. Low significance.
4.2	Municipal waste (household and or commercial wastes)?	Yes	Domestic waste will be generated.	No. The domestic waste can be managed.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Used oils and old batteries.	Mitigation measures are important to manage the handling and disposal of used oils and old batteries.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	Sewage is produced at the construction camp.	Sewage is always a very important impact that might have a negative impact on soils, water and health and safety.
4.7	Construction or demolition wastes?	No		
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	Yes	There is always a possibility that contamination of soils can occur during operation due to spillage of oils / diesel.	No. The scale of contamination is very limited and can be mitigated.
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		

5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Gasses such as Nox and Sox are deposited in the air from the machines.	No. The quantity of these gasses will not impact negatively on the environment.
5.2	Emissions from production processes?	No		
5.3	Emissions from materials handling including storage or transport?	No		

5.4	Emissions from construction activities including plant and equipment?	Yes	The movement from vehicles will generate dust and gaseous emissions as well as the crusher plant.	The impacts might be significant if not managed properly.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Dust from mineral handling and transport.	Yes. Dust might be a nuisance to receptors.
5.6	Emissions from incineration of waste?	No		
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	No		
5.8	Emissions from any other sources?	No		

6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.1	From operation of equipment eg engines, ventilation plant, crushers?	Yes	The mining of borrow pits and production equipment produces noise and vibrations	No. The ambient receptors are minimal. The Health and Safety within close distance must be noted.
6.2	From industrial or similar processes?	No		
6.3	From construction or demolition?	Yes	Construction might produce noise.	Low significance.
6.4	From blasting or piling?	Yes	Blasting might be conducted which will impact on existing water sources, houses and other receptors in the area.	The blasting might not be significant if it takes place far from people, buildings and existing water installations. If blasting is taking place close to people or existing infrastructure, significant negative impacts may result from blasting.
6.5	From construction or operational traffic?	Yes	The hauling trucks will produce noise and vibration.	No. The impact is very local and is not significant.
6.6	From lighting or cooling systems?	No		
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No		

6.8	From any other sources?	No		

7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or water features?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Spillage of oils and other hydrocarbon may affect the water and soil.	No. Mitigation measures will limit the risk and therefore the significance.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	Effluent at the construction site might impact negatively on the surface water, soils and health and safety of the workforce.	Should the sewage not be properly managed the negative impact might be significant.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	Gasses from the machines.	No. The volumes of emissions are limited.
7.4	From any other sources?	No		
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No		

8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	No		
8.2	From events beyond the limits of normal environmental protection eg failure of pollution control systems?	No		
8.3	From any other causes?	No		

8.4	Could the project be affected by natural disasters causing environmental damage (eg floods, earthquakes, landslip, *etc)?*	No		

9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
9.1	Changes in population size, age, structure, social groups etc?	No		
9.2	By resettlement of people or demolition of homes or communities or community facilities eg schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	?	In-migration of people might be a possibility.	The significance is unsure.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	No		
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	The local and larger community will benefit from the construction phase.	The significance might be positive medium due job creation and increased mobility.
9.6	Any other causes?	No		

10. Are there any other factors which should be considered such as consequential development which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality?

No.	Questions to be considered in Scoping	Yes/No/?	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment eg more housing, new roads, new supporting industries or utilities, etc?	Yes	New road will be constructed which will benefit the communities. Lower vehicle operating costs will contribute to the National economy.	The significance will be positive but the extent uncertain.

10.2	Will the project lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment eg: • supporting infrastructure • housing development • extractive industries • supply industries • other?	No	No.	
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No		
10.4	Will the project set a precedent for later developments?	?	Unlikely	
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	No		

PART TWO OF THE SCOPING CHECKLIST: CHARACTERISTICS OF THE PROJECT ENVIRONMENT

For each project characteristic identified in Part 1 consider whether any of the following environmental components could be affected.

Question - Are there features of the local environment on or around the Project location which could be affected by the Project?

- There are no areas protected by law in the vicinity of the proposed site.
- No areas were identified that could be regarded as sensitive with reference to bio-diversity or historic importance.
- There is a low possibility of features of high historic or cultural importance.
- Surface drainage patterns will be addressed through proper engineering design.

Question - Is the Project in a location where it is likely to be highly visible to many people?

This road is travelled substantially so it will be seen and used by a large amount of people.

Question - Is the Project located in a previously undeveloped area where there will be loss of Greenfield land?

No, the road will be constructed on the existing alignment.

Question - Are there existing land uses on or around the Project location which could be affected by the Project?

The will be a few borrow pits that will be opened but will not affect the existing land uses significantly.

Question - Are there any plans for future land uses on or around the location which could be affected by the Project?

No. The area will probably remain agricultural.

Question - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?

There are no densely populated areas around the project, only agricultural activities and dwellings.

Question - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project?

No.

Question - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project?

There are no scarce resources found around the project that could be influenced by the construction or operational phases of these projects, but there are some flora species (trees) that are protected by Forestry Legislation.

Question - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?

No. The area has been subject to agricultural and semi-urban activities.

Question - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?

No. The area is very flat with limited floods, erosion or impacts on the climatic conditions.

Question - Is the Project likely to affect the physical condition of any environmental media?

No, the proposed project will be constructed on the existing alignment.

Question - Are releases from the Project likely to have effects on the quality of any environmental media?

- The air quality might deteriorate due to dust generation during construction but will improve during operation.
- The quality of soil might deteriorate without proper management.
- Acidification of soils or waters will probably not occur.
- There will be some noise generated during the construction and operational phase of the road, but will be limited to the site.

Question - Is the Project likely to affect the availability or scarcity of any resources either locally or globally?

- The project will use fossil fuels in liquid (diesel).
- Water will be used for dust suppression, construction and domestic use.
- The quarrying activity extracts minerals on a non-renewable basis.

Question - Is the Project likely to affect human or community health or welfare?

- The quality of air will be affected due to construction activities and hauling. Even though this is the case, human health might not be problematic.
- No mortality or morbidity might be experienced by human receptors.
- The project will have a positive impact on the social economic welfare of the region.

In the Scoping checklist, the significance must be indicated. To facilitate this procedure, the following questions were considered during the rating:

Questions that were considered to determine significance:

1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans frontier impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

8.2 Environmental Impact Assessment Summary

The following environmental impacts were identified during the assessment procedure as described above. The impacts are classified as either positive or negative and the significance ratings as low, medium and high.

Activity	Aspect / Impact	Positive / Negative	Significance
Land use / topography, and land use cover.	The quarry operations will permanently alter the land use, land cover and, for the borrow pits - topography of the area.	Negative	Low
	Areas zoned as undetermined or agricultural will change to transport (land use).	Negative	Low
Clearance of existing land, vegetation and buildings.	Clearing of vegetation for construction operations influencing the vegetation, soils and topography.	Negative	Low
Creation of new land uses.	The existing land use will change from agricultural to road (land use).	Negative	Low
Construction activities.	During construction aspects such as social, soil, surface water, vegetation and geology can be affected.	Negative	Low
Temporary sites used for construction works or housing of construction workers?	A temporary construction camp will probably be constructed where water and waste management are the most important activities that need to be mitigated.	Negative	Low
Above ground buildings, structures or earthworks including linear structures cut and fill or excavations.	The above ground earthworks will be regarded as primarily for the road construction. Permanent changes will take place (land use).	Negative	Low
Facilities for storage of goods or materials.	Pollution of soils and water.	Negative	Medium
New road, rail or sea traffic during construction or operation?	Limited traffic increase due to movement of construction vehicles.	Negative	Low
Impoundment, damming, culverts, realignment or other changes to the hydrology of watercourses or aquifers.	This aspect is probably of greatest concern for this project. The road will be built on a flood plain to the east.	Negative	Low
Stream crossings?	Various streams on the flood plain will be crossed.	Negative	Low
Changes in water bodies or the land surface affecting drainage or run-off?	The road will impact on the surface patterns.	Negative	Low

Influx of people to an area in either temporarily or permanently	Migration of people might impact on the socio-economic structure of the area. The risk of HIV/AIDS may increase due to the influx.	Negative	Low
Loss of native species or genetic diversity?	Surface disturbances always impact on the bio-diversity of an area.	Negative	Low
Resources such as land and water.	Very limited agricultural land will be affected due to the construction of the road.	Negative	Low
	Water is used for domestic and construction purposes.	Negative	Low
Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, and water supplies)?	Hydrocarbons always pose a risk to the environment.	Negative	Medium
Will the project affect the welfare of people eg by changing living conditions?	The proposed route will impact positively on the vulnerable groups due to improved mobility network. Safety of the road user will also greatly improve at Gobabis and Buitepos.	Positive	Medium
Pollution on site (domestic and construction waste).	Pollution of the natural environment (soil and water).	Negative	Low
Sewage sludge or other sludge from effluent treatment?	Sewage is produced at the construction camp.	Negative	Medium
Contaminated soils or other material.	There is always a possibility that contamination of soils can occur during operation due to spillage of oils / diesel.	Negative	Medium
Emissions from combustion of fossil fuels from stationary or mobile sources	Gasses such as Nox and Sox are deposited in the air from the machines.	Negative	Low
	The movement from vehicles will generate dust and gaseous emissions.	Negative	Medium
By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	The local community will benefit from the construction phase through additional employment opportunities.	Positive	Medium
Will the project lead to pressure for consequential development which could have significant impact on the environment eg more housing, new roads, new supporting industries or utilities,	New road will be constructed which will benefit the communities by improving access to schools, clinics and churches.	Positive	Medium

etc?	New economic nodes might be established along the routes stimulating the local economy.	Positive	Medium
Will the project lead to development	Access improvement to facilities in the region will benefit the local and regional communities.	Positive	Medium

9. ANALYSIS OF ALTERNATIVES

The following alternatives were considered during the planning phase of the proposed project:

9.1 Horizontal alignment of the roads:

It was decided for this project that the existing horizontal alignment will be followed. By deciding this, the following impacts will be limited associated with the construction of a new road:

- Minimal impact on the natural environment (trees, soils, rivers, etc);
- Expanding existing culverts and bridges accommodating the surface water drainage patterns;
- Minimal impact on socio-economic activities (agricultural fields, graves, etc);
- Avoidance of structures (houses, power lines, etc).

9.2 Construction Method

The use of heavy duty machines were the only considered means of construction.

9.3 Construction Materials

Various areas were prospected to identify suitable materials for the construction of this road. The availability of suitable material is very important and various alternative sites have been identified for these materials.

9.4 The "No-Go" Option

If this option is executed the status quo of the environment will prevail. The current road will deteriorate to such an extent that it will not be usable.

10. ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Environmental and Social Management Program (ESMP) will be implemented during construction. The ESMP is intended to bridge the gap between the Environmental Impact Assessment (EIA) and the implementation of the project, particularly with regard to implementing the mitigation measures recommended in the Environmental Impact Assessment (EIA). Monitoring, auditing and taking corrective actions during implementation are crucial interventions to successfully implant the ESMP.

The ESMP detail actions to ensure compliance with regulatory bodies and that environmental performance is verified through information on impacts as they occur.

ESMP implementation is a cyclical process that converts mitigation measures into actions and through cyclical monitoring, auditing, review and corrective action, ensures conformance with stated ESMP aims and objectives. Through monitoring and auditing, feedback for continual improvement in environmental performance must be provided and corrective action taken to ensure that the ESMP remains effective.

10.1 ESMP Administration

Copies of the ESMP shall be kept at the site office and will be distributed to all senior contract personnel. All senior personnel shall be required to familiarize themselves with the contents of this document.

10.2 Roles and Responsibilities

The implementation of the ESMP requires the involvement of several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during each phase.

Engineer's Representative (ER)

The Engineer will delegate powers to the Engineer's Representative (ER) on site who would act as the Employer's implementing agent and has the responsibility to ensure that the Employer's responsibilities are executed in compliance with relevant legislation and the ESMP. The Engineer also has the responsibility to approve the appointment of the Environmental Control Officer (ECO).

Any on-site decisions regarding environmental management are ultimately the responsibility of the ER. The ER will have the following responsibilities in terms of the implementation of this ESMP:

- Controlling that the necessary environmental authorizations and permits have been obtained by the Contractor.
- Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO (Environmental Control Officer) where necessary.

- Taking appropriate action if the specifications are not followed.
- Ordering the removal of person(s) and/or equipment not complying with the EMP specifications.
- Recommending and issuing fines for transgressions of site rules and penalties for contravention of the ESMP.
- Advising on the removal of person(s) and/or equipment not complying with the specifications.
- Auditing the implementation of the ESMP and compliance with authorization on a monthly basis.
- Undertaking a continual review of the ESMP and recommending additions and/or changes to the document after completion of the contract.

Environmental Control Officer (ECO)

The Environmental Control Officer (ECO) will be a competent person from the staff of Contractor to implement the on-site environmental management of this ESMP by the Contractor. The ECO shall be on site daily and the ECO's duties will include the following:

- Assisting the ER in ensuring that the necessary environmental authorizations and permits have been obtained.
- Maintaining open and direct lines of communication between the ER, Employer, Contractor and interested and affected parties (I&APs) with regard to environmental matters.
- Convening and facilitating public meetings.
- Regular site inspections of all construction areas with regard to compliance with the ESMP.
- Monitoring and verifying adherence to the ESMP, monitoring and verifying that environmental impacts are kept to a minimum.
- Assisting the Contractor in finding environmentally responsible solutions to problems.

- Monitoring the undertaking by the Contractor of environmental awareness training for all new personnel coming onto site.

10.3 Environmental Awareness Training

Before any work is commenced on the Site, the Contractor shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers receive an induction presentation on the importance and implications of the ESMP. The Contractor shall liaise with the Engineer during establishment phase to fix a date and venue for the training and to agree on the training content.

The Contractor shall provide a suitable venue and ensure that the specified employees attend the course. The Contractor shall ensure that all attendees sign an attendance register, and shall provide the ER with a copy of the attendance register. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

As a minimum, training should include:

- Explanation of the importance of complying with the ESMP.
- Discussion of the potential environmental impacts of construction activities.
- The benefits of improved personal performance.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out their activities.
- Explanation of the specifics of this ESMP and its specification (no-go areas, etc.)
- Explanation of the management structure of individuals responsible for matters pertaining to the ESMP.
- The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

10.4 Public Participation

An on-going process of public participation shall be maintained during construction to ensure the continued involvement of interested and affected parties (I&APs) in a meaningful way. Public meetings to discuss progress and any construction issues that may arise shall be held at least every two months and more regularly if deemed necessary by the ER. These meetings shall be arranged by the ECO but shall be facilitated by the ER. The Contractor shall present a progress report at each public meeting. All I&APs that participated in or were informed during the EIA shall be invited to each of the public meetings.

10.5 Environmental Mitigation Measures

The following mitigation measures are sufficient to reduce or avoid negative impacts associated with the construction of a road. It is based on the activities mentioned in this report that will occur during the construction phase of the project:

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
10.5.1 MANAGEMENT AND MONITORING	To ensure that the provisions of the ESMP are implemented during construction.	a. The environmental and social consultant shall ensure that all aspects of the ESMP are implemented during construction. b. The environmental and social consultants shall attend regular site inspections and meetings and minutes shall make provision for reporting on every aspect of the ESMP.	Environmental and social consultant together with the ECO.
10.5.2 COMMUNICATION AND STAKEHOLDER CONSULTATION	To ensure that all stakeholders are adequately informed throughout construction and that there is effective communication with and feedback to the consultant and client.	a. The Contractor shall appoint an ECO from the construction team to take responsibility for the implementation for all provisions of this ESMP and to liaise between the contractor, community, client and consultants. The ECO must be appointed at least 14 days after the site-handover. b. The Contractor shall at every site meeting report on the status of the implementation of all provisions of the ESMP. c. The contractor shall implement the environmental awareness training as stipulated in Section 10.3 above. d. The Contractor shall liaise with the social and environmental consultants regarding all issues related to community consultation and negotiation as soon as possible after construction commences.	Contractor/ Environmental and Social Consultant to monitor.
10.5.3 HEALTH AND SAFETY	To ensure health and safety of workers and the public at all times during construction	a. The Contractor shall submit a strategy to ensure the least possible disruption to traffic and potential safety hazards during construction. b. The strategy should include a schedule of work indicating when and how road crossings (construction at existing intersections) will be made. The schedule should be updated and distributed to all stakeholders. c. The Contractor shall also liaise with the Traffic Authorities in this regard. d. Proper traffic and safety warning signs must be placed at the construction site to	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		the satisfaction of the Engineer and the Roads Authority. e. The Contractor must adhere to the regulations pertaining to Health and Safety, including the provision of protective clothing, failing which the Contract may be temporarily suspended until corrective actions were taken. f. Dust protection masks shall be provided to task workers if they complain about dust. g. Surface dust will be contained by wetting dry surfaces periodically with a water bowser, sprinkler system or any suitable method. This applies for the construction site as well as all the roads. h. Potable water shall be available to workers to avoid dehydration. This water shall be of acceptable standards to avoid any illness. At least 3 litres of drinking water per person per day shall be made available during construction. i. The contractor shall enforce relevant Health and Safety Regulations for these specific activities. j. The contractor shall also comply with relevant Labour Laws as stipulated by the Labour Act. k. The Contractor shall implement a HIV/AIDS awareness programme as part of Health and Safety. l. Blasting may only be conducted by a qualified person and all laws and regulations will be enforced before and during blasting. Blasting must be done in accordance with Clause 1222 of the Standard Specification of the Roads Authority of Namibia.	
10.5.4 CONSERVATION OF THE NATURAL AND HISTORICAL ENVIRONMENT	To minimise damage to soil, vegetation and historical resources during the construction phase. This includes soil crusting, soil erosion and unnecessary	a. At the outset of construction (or during construction as may be applicable), the ECO and the contractor shall visit all proposed borrow-pits, haul roads, access roads, camp sites, and other areas to be disturbed outside the road reserve. Areas to be disturbed shall be clearly demarcated, and no land outside these areas shall be disturbed or used for construction activities. b. Detailed instructions and final arrangements for protection of sensitive areas, keeping of topsoil and rehabilitation of disturbed areas shall be made, in line with	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
	vegetation destruction. Management of water (domestic and construction).	the guidelines in this document. The ECO shall be consulted before any new areas are disturbed which have not yet been visited. c. No off-road driving shall be allowed, except on the agreed haul and access roads. d. Vegetation shall be cleared within the road reserve as necessary for the construction of the road, while trees with a trunk diameter exceeding 500 mm (1 meter above ground) shall be left intact. The reserves on either sides of this corridor may not be cleared of vegetation, unless permission is given to do so for detours or access roads. This measure is subjected to the Roads Authority of Namibia specifications with regards to the road reserve. e. A prescribed penalty will be deducted from the Contractors payment certificate for every mature tree removed without approval. f. No trees may be felled or live wood in the project area removed by any member of the construction team, including sub-contractors. Contravention of this arrangement is liable for a prescribed penalty. g. A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that trees and/or branches have been broken down willfully and unnecessarily, or that any plants have been collected illegally, by any of the staff or sub- contractors. h. Trees that need to be trimmed should be done so with the right equipment and aesthetical acceptable. The use of any type of saw is obligatory and the branches of trees will not be broken off by the use of other machinery. i. Where topsoil is available, this must be stockpiled separately in 1,00 m high piles and this used to cover the damaged areas outside the road reserve such as access roads to borrow pits, and clearing and grubbing areas. j. Where compaction has taken place in disturbed areas, these areas must be ripped and covered with topsoil separately kept for this purpose. k. Poaching or collecting of wild animals is prohibited unless a permit has been obtained for legal hunting purposes. l. The killing of any animal (reptile, bird or mammal) is prohibited, unless for legal	monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		hunting purposes. m. A prescribed penalty will be deducted from the contractor's payment certificate if it is shown that any of his staff or sub-contractors are involved in trapping, hunting or any kind of collecting of wild animals in the vicinity of the work sites. Offenders will be handed to the authorities for prosecution. n. Pipelines for the pumping of construction water shall as far possible run within the road reserve and along existing tracks and other roads. o. Water will not be allowed to be wasted. This includes water required for construction and domestic purposes.	
10.5.5 BORROW PIT MANAGEMENT AND REHABILITATION	To ensure proper soil management (combat soil erosion and promote biological activities). Preserve and manage natural vegetation. To ensure health and safety around the borrow pits (decommissioning phase). To stimulate ecological processes after decommissioning (to stimulate vegetation and other biological activities). To establish borrow pits which is aesthetically pleasing after decommissioning.	a. The removal of material at borrow-pit sites shall be focused where the least significant vegetation exists. If material is only available around significant mature trees (more than 500 cm circumference – 1 meter above ground), clusters of trees should be preserved while suitable material is excavated around them. A 3 meter buffer must be conserved around the cluster of mature trees. The ER shall visit all proposed borrow-pit areas and indicate where and how material may be removed, before works commence. A **cluster constitutes 5 or more trees in close proximity (within 20m radius).** b. The Contractor shall use safety tape to mark these tree clusters as to avoid confusion or miss-understandings. c. The Engineers and surveyors must draft a plan for approval before commencement of a borrow pit. This plan must indicate the required resources and sensitive areas that may not be mined (indication of the mature trees). d. The borrow pit areas will be clearly marked by using brightly painted markers. These markers will demarcate the area where materials might be removed and stored. e. All borrow-pits must be rehabilitated. f. The contractor shall liaise with the applicable local headmen OR residents regarding whether their borrow-pits shall be shaped as water reservoirs during rehabilitation.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		g. At those borrow-pits not to be shaped as reservoirs, topsoil (the top layer of organic material, even if the topsoil in non-existent, the top layer of organic material) at borrow pits shall be stockpiled separately and the stockpile maintained for use at the end of the contract to rehabilitate the borrow pits. h. The top soil shall be marked as to inform the machine operators that the material is top soil and should be left alone for rehabilitation purposes. i. The borrow pits shall be rehabilitated by trimming the sides to a slope not steeper than 30° (1:3) and evenly spreading the top soil over the slopes to allow for the growth of new vegetation. j. All spoil material at the borrow pits shall be neatly shaped and no loose material (oversized) will be left inside the borrow pits. k. Access to borrow pits shall be controlled (using gates or manned positions). l. The borrow pit floor shall be levelled evenly as part of rehabilitation. m. A Borrow Pit Rehabilitation Plan will be compiled indicating the rehabilitation schedule (time-frames) for the various borrow pits to be rehabilitated. n. After the borrow pit has been rehabilitated, the Rehabilitation Checklist will be completed and signed by the relevant parties (See Appendix B).	
10.5.6 WASTE AND POLLUTION MANAGEMENT	To avoid contribution to potential surface and groundwater pollution. To avoid contribution to potential soil pollution. To ensure that sound waste management practices are adhered to during construction.	a. Construction rubble and other waste generated during construction will be disposed of on a regular basis at an approved waste disposal site. A temporary waste site may be demarcated for temporary storage of waste, but this area will be identified and clearly marked. b. The temporary domestic waste site will be fenced off with access control to the area. c. Adequate separate containers for hazardous and domestic waste will be provided on site and at the construction camp. d. The workforce will be sensitised to dispose of waste in a responsible manner and not to litter. e. Waste bins will be placed in and around the construction site to facilitate proper waste management. f. No waste may remain on site after completion of the project.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will monitor.

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		g. The construction of properly designed sewage facilities is required at the camp site. The sewage should either be removed on a regular basis and dumped at an approved sewage facility or where it is not possible, the sewage should be managed to such an extent that is does not cause any negative effects on the bio-physical or social environments. Proof of disposal shall be kept as record in the environmental file for environmental performance assessment purposes. No free flowing sewage is acceptable. h. Toilet facilities will be available in the following ratio: 2 toilets for every 50 females and one toilet for every 50 males. The toilets should be such that it can be transported for various site selections and to be emptied at an approved sewage site. No person should have to walk more than 1km for the use of a toilet. i. A demarcated vehicle service area will be provided. This area will have an impermeable floor, oil trap and dedicated wash bay area. All used water will first run through the oil trap before the effluent is allowed to exit. The oil trap will be cleaned on a regular basis to ensure its efficiency. j. Servicing of vehicles is only permitted in the demarcated vehicle service area, except for large immobile vehicles which may be serviced on site, on condition that oils and lubricants are prevented from spilling through the use of drip trays or other suitable containers. k. Drip trays will be available for all vehicles that are intended to be used during construction. These trays will be placed underneath each vehicle while the vehicles are parked. The drip trays will be cleaned every morning and the spillage handled as hazardous waste. l. Machines operating during the day that shows signs of excess leaking (verified by ECO or ER) should be withdrawn from the task and repaired by the contractor. m. Accidental spills will be cleaned immediately. The contaminated soil will be suitably disposed of in a container suitable for hazardous waste.	
		n. Oil, lubricants, and other hazardous materials will be stored in separate containers (concrete liner, container, or metal or plastic drip tray) and stored for	

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
		transport and disposal at an approved waste disposal site or for collection by an oil recycling company such as WESCO Salvage (this company collects significant quantities of oil from central locations throughout the country). o. Fuel tanks on site will be properly bunded. The volume of the bunded area will be sufficient to hold 1.5 times the capacity of the storage tanks. The floor of the bunded area will be impermeable and the sides high enough to achieve the 1.5 times holding capacity. There will be a valve installed in the bunded area to allow rain water drainage. p. Foam fire extinguishers will be in close proximity to fuel kept on site. There will be trained personnel to handle this equipment. At least two extinguishers will be placed at every fuel storage area. q. Bitumen batching areas will make use of drip trays to prevent unnecessary spillage of any bitumen products. Cleaning of spray nozzles should be done on the bypass (if it is gravel) or any other section of the road that is in use. This serves as a dust suppressor. r. Should large quantities of bitumen needs to be disposed, it can be done at a borrow pit with the following mitigation measures: (i) the borrow pits area should not be in the road reserve; (ii) The aquifer should not be near the borrow pit floor and the borrow pit must not be situated less than 100m from any stream or river; (iii) a plastic lining will be laid underneath the proposed dumping area and the spoiled bitumen needs to be covered with the same plastic lining as to prevent leaching; (iv) at least three meters of material will be placed on top of the plastic lining.	
10.5.7 REHABILITATION OF CONSTRUCTION SITE, SERVITUDES AND CLEARED AREAS	To rehabilitate the site office, work sites, servitude areas, tracks and other areas disturbed during construction as close to their original state as reasonably possible.	a. All bunded areas, equipment, waste, temporary structures, stockpiles etc. must be removed from the camp and work sites. b. All disturbed areas shall be reshaped to their original contours; as close as possible to the natural conditions before construction commenced, including the road reserve, detours, construction camps, and temporary access routes. c. Alien vegetation particularly the Downy thorn apple (*Datura innoxia*) and Wild tobacco (*Nicotiana glauca*) that occur in the project corridor must be weeded.	Contractor will ensure the mitigation measures are enforced at his own expense. The ECO will

COMPONENT	OBJECTIVE	MANAGEMENT MEASURES	RESPONSIBILITY/ PARTNERSHIPS
(WHICH INCLUDES STOCKPILES)		d. All cuttings must be shaped with a slope to provide a natural appearance, without having to destroy significant vegetation on top of the slope (this applies to big trees as mentioned in the ESMP only). e. Existing borrow pits adjacent to main roads need also be rehabilitated during rehabilitation phase.	monitor.

10.6 Non-Compliance

A) Procedures

The Contractor shall comply with the environmental specifications and requirements on an on-going basis and any failure on his part to do so will entitle the ER to impose a penalty. In the event of non-compliance the following recommended process shall be followed:

- The ER shall issue a notice of non-compliance to the Contractor through the ECO, stating the nature and magnitude of the contravention.
- The Contractor shall act to correct the non-conformance within 24 hours of receipt of the notice, or within a period that may be specified within the notice.
- The Contractor, through the ECO, shall provide the ER with a written statement describing the actions to be taken to discontinue the non-conformance, the actions taken to mitigate its effects and the expected results of the actions.
- In the case of the Contractor failing to remedy the situation within the predetermined time frame, the Engineer shall impose a monetary penalty based on the conditions of contract.
- In the case of non-compliance giving rise to physical environmental damage or destruction, the Engineer shall be entitled to undertake or to cause to be undertaken such remedial works as may be required to make good such damage and to recover from the Contractor the full costs incurred in doing so.
- In the event of a dispute, difference of opinion, etc. between any parties with regard to or arising from interpretation of the conditions of the ESMP, disagreement regarding the implementation or method of implementation of conditions of the ESMP, etc. any party shall be entitled to require that the issue be referred to specialists for determination.
- The Engineer shall at all times have the right to stop work and/or certain activities on site in the case of non-compliance or failure to implement remedial measures.

B) Offences and Penalties

Where the Contractor inflicts non-repairable damage upon the environment or fails to comply with any of the environmental specifications, he shall be liable to pay a penalty fine over and above any other contractual consequence.

The Contractor is deemed NOT to have complied with this Specification if:

a. within the boundaries of the site, site extensions and haul/access roads there is evidence of contravention of the Specification;

b. environmental damage due to negligence;

c. the Contractor fails to comply with corrective or other instructions issued by the ER within a specific time;

d. the Contractor fails to respond adequately to complaints from the public.

Penalties for the activities detailed below, might be imposed on discretion of the ER should the Contractor and/or his Subcontractors be found to be Non-Compliant (Section 8.6):

a.	Actions leading to major erosion.	A penalty equivalent in value to the cost of rehabilitation plus 20%.
b.	Oil spills due to negligence and/or reluctance towards mitigation measures mentioned in the ESMP.	A penalty equivalent in value to the cost of clean-up operation plus N$ 5,000.
c.	Damage to indigenous vegetation due to reluctance towards the ESMP.	A penalty equivalent in value to the cost of restoration plus N$ 5 000.
d.	Damage to demarcated sensitive environments.	A penalty equivalent in value to the cost of restoration plus N$ 5 000.
e.	Damage to demarcated cultural sites.	A penalty to a maximum of N$100 000 shall be paid for any damage to any cultural/ historical sites identified during the EIA and made known to the Contractor.
f.	Damage to trees.	A penalty to a maximum of N$5 000 shall be paid for each tree removed without prior permission, or a maximum of N$5 000 for significant damage to any tree, which is to be retained on site.
g.	Damage to natural fauna (due to negligence and/or deliberate injury to any natural occurring animal.	A penalty to a maximum of N$5 000
h.	Improper storage of any hazardous materials or hydrocarbon substances (used oils / diesel / petrol).	N$ 10,000
j.	Litter on site.	N$ 1,000
k.	Deliberate lighting of illegal fires on site.	N$ 1,000

l.	Uncontrolled leaking or overflow of any toilet or sewage system related to the contract.	N$ 10,000 plus rehabilitation cost
m.	Any person, vehicle, item of plant, or anything related to the Contractors operations identified driving in any "no-go" area or driving outside the permitted areas.	N$ 10,000 plus the rehabilitation cost

- Penalties may be issued per incident at the discretion of the Engineer. The Engineer will inform the Contractor of the contravention and the amount of the fine and will deduct the amount from monies due under the Contract.
- For each subsequent similar offence, the fine may, at the discretion of the ER, be doubled in value to a maximum value of N$20, 000.
- Payment of any fines in terms of the contract shall not absolve the offender from being liable from prosecution in terms of any law.
- In the case of a dispute in terms of this section, the Engineer shall determine as to what constitutes a transgression in terms of this document.

Environmental Monitoring and Auditing

Environmental monitoring should be conducted at least once every six months during construction. Benefits derived from the monitoring and final audit process might include:

- identification of environmental risk;
- development or improvement of the environmental management system;
- avoidance of financial loss;
- avoidance of legal sanctions;
- increase in staff awareness;
- identify potential cost savings;
- improve dealings with employees, environmental groups, the community, regulators, media, shareholders, or insurance & finance institutions; and
- establish a history of environmentally responsible operations, e.g. through environmental incident reports, environmental monitoring & recording, & reporting to committees or Authorities.

Commonly, the environmental monitoring or audit of a site will cover all management procedures, operational activities & systems, and environmental issues. The environmental

monitoring and final audit will be compiled objectively and be conducted by an independent, competent entity.

Documentation, Record Keeping and Reporting Procedures

It is vital that an appropriate document handling and retrieval system be developed for all EMP documentation. This will ensure that there is adequate EMP documentation control and will facilitate easy document access and evaluation. EMP documentation should include:

- EMP implementation activity specifications;
- training records;
- site inspection reports;
- monitoring reports; and
- Performance Assessment reports.

Responsibilities must be assigned to relevant personnel for ensuring that the EMP documentation system is maintained and that document control is ensured through access by and distribution to, identified personnel.

Document control is important for the effective functioning of an EMP. A document handling system must be established to ensure adequate control of updating and availability of all documents required for the effective functioning of the EMP. This procedure applies to the EMP as well as procedures and policies relating to the EMP, which must be controlled (i.e. identified, registered and changes recorded).

The Environmental Officer is responsible for ensuring that the registration and updating of all relevant EMP documentation is carried out. It is the responsibility of the Project Manager of the Contractor to ensure that all personnel are performing according to the requirements of this procedure and to initiate the revision of controlled documents, when required by changes in process, operating procedures, legislation, specifications, monitoring or audit findings or any other circumstances, by informing the Environmental Officer of the changes. A controlled document is official only if the issue/revision has been approved. The Environmental Officer and Project Manager are responsible for ensuring that the latest versions of documents are used to conduct tasks which may impact on the project environment.

11. CONCLUSION AND RECOMMENDATIONS

This project does not pose significant environmental risks due to the fact that the existing alignment will be followed. The various negative impacts associated with the construction of roads can be mitigated through effective implementation of the Environmental and Social Management Plan.

Waste management, pollution prevention and control as well as effective borrow pit rehabilitation will prevent any significant long term negative effects associated with this project.

Upgrading of this road will increase the safety of road users due to the width extension of both the road surface and culverts.

Vehicle operating cost will be reduced due to the new road surface therefore having a positive financial effect on the road users from Namibia and the surrounding countries.

12. References

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Other citations were done in the document with references.

APPENDIX A

DAILY QUESTIONS

CONSTRUCTION SITE MONITORING CHECKLIST

Construction site name_____

Environmental/Safety/Health Site Officer Name_____

Date_____

CHECK THE FOLLOWING DAILY ON THE CONSTRUCTION SITE AND AT THE CONTRACTOR'S CAMP				
Category 1: Personal Protective Equipment (PPE), construction site safety, access control and hazardous substance handling				
	Question	**Yes**	**No**	**If no, describe action taken**
1	Have all labourers working today, including sub-contractors, been fully trained in proper health and safety procedures?			
2	Have you conducted a hazard assessment of the worksite and the planned construction activities for today with the Site Foreman and reviewed the EMP/PHPSAP to identify any new issues that might come up during the day?			
3	Are all labourers and staff wearing the required Personal Protective Equipment (PPE)? Minimum PPE includes: Hard hat Safety shoes Overalls Certain operations require additional PPE, such as: Eye protection/goggles/visors Face masks Gloves Ear plugs /ear muffs Harnesses			
7	Are all hazardous substances (eg fuel, paint, oil containers, cement etc) stored in an area marked by danger tape or in a locked room away from public access?			
8	Are any visitors or suppliers expected to visit the			

	construction site today? If so, ensure sufficient PPE is available for their use and that the visitors register is signed when they arrive.			
9	Are labourers and equipment a safe distance away from power lines?			
10	Are extension cords and portable tools in good condition?			
11	Is the first aid kit fully stocked and accessible in case of emergency?			
Category 2: Excavations, stockpiles, storage areas and general housekeeping				
	Question	**Yes**	**No**	**If no, describe action taken**
12	Have all excavations been demarcated with barrier tape (minimum requirement) or fencing if the excavation is deeper than 2m?			
13	If a trench is more than 2m deep, is there a form of protection, such as: Sloping or benching Trench box or shield Shoring			
14	Is any stockpiling taking place today? If so, ensure the stockpile is placed in an area approved by the Site Foreman and that the height does not exceed 2m and that the slopes are not steep. Is the area demarcated with barrier tape?			
15	Are all storage areas neat and tidy with no machinery, vehicles, poles, materials or nails sticking out which may cause an injury or cause someone to trip up? Have the storage areas been demarcated with barrier tape?			
16	Is the construction site in general safe and neat with no waste lying around?			
Category 3: Solid waste management				
	Question	**Yes**	**No**	**If no, describe action taken**
17	Are there sufficient covered waste containers in place on the construction site and in the Contractor's camp			

	in which to store waste material?			
18	Is waste (including construction waste) being disposed of in a designated disposal area and secured to prevent soil contamination (eg plastic lining underneath the waste pile) or covered to prevent it being blown off site?			
19	Have you checked to ensure waste is not being burnt or disposed of in pits on the site?			
20	Are there any signs of accidental/negligent spills of bitumen, fuel, oil, cement, paint etc visible on the site? If so, ensure spillages are cleared and the waste is containerised for subsequent disposal. Such waste should be treated as hazardous and be appropriately sealed prior to disposal.			
21	Is waste being disposed of off-site today and is it being sent to an approved site? Note the name of the site and keep a record of approximate waste volumes or bags taken for disposal. Waste may be separated for later recycling if this is taking place at the disposal site.			
Category 4: Water management				
	Question	**Yes**	**No**	**If no, describe action taken**
22	Are all water taps and points functioning properly and has a paved surface been provided beneath the tap/water point to prevent erosion and channel water to a catch pit?			
23	Is cement mixing taking place within a bunded area, where excess water drains to a lined pit? Are cement mixing trays being used in confined areas?			
24	Are there any flooded areas at the site? If so, have stormwater systems been installed to manage the water drains? If groundwater is encountered in an excavation or pit, ensure the Site Foreman, RE and Environmental Consultant in the Consulting team are consulted about remedial action.			
Category 5: Social aspects				
	Question	**Yes**	**No**	**If no, describe action taken**
25	Have community representatives been consulted about any concerns related to the construction?			
26	Are HIV/AIDs and other health posters/leaflets being displayed at the work site and have sufficient			

	condoms (male and female) been made available? Does any new material need to be ordered?			
27	Is the general hygiene and waste management at the Contractor's camp acceptable?			
28	Is all potable water and wastewater systems working properly on the construction site and in the Contractor's camp?			
29	Have any records been kept of accidents, work related illnesses or injuries that may have occurred today?			
Category 6: Other (e.g. access roads, borrow pits, dust and noise pollution)				
	Question	**Yes**	**No**	**If no, describe action taken**
30	Are any construction/delivery vehicles using the access roads to the construction site or the borrow pits today? If yes, ensure no impacts have occurred at these locations as a result.			
31	Are construction activities causing any dust pollution? If so, ensure mitigation measures are implemented as per the EMP.			
32	Is construction or Contractor's camp activities causing any noise pollution? If so, ensure mitigation measures are implemented as per the EMP.			
33	Did any training (including for HIV/AIDS) or "toolbox talks" take place today? If so, has a record of attendance and the training provided been kept?			
34	Are there any other environmental aspects not mentioned above that should be mentioned for the record – eg tree/vegetation removal, rehabilitation etc?			
35	Are all records pertaining to environmental management updated and on file?			

Notes in Respect of Category 1
• Ensure all excavations are secure by being sealed off with barrier tape. Should access to the excavation be required by staff, or for vehicles, machinery, building supplies or equipment, then the barrier tape should be erected nearby to prevent access to the wider construction area where the excavation is located. If the excavation is deeper than 1.5m, then consideration should be given to installing fencing or a more secure and permanent barrier to prevent access. • All materials, machinery and equipment should also be stored in secure areas, which as a minimum have been sealed off with barrier tape. Hazardous substances (such as fuel, cement, paints etc) should be stored in structures which can be either locked or to which general access can be prevented. Adequate

safety signage should be in place (and on notice-boards) to warn about use of hazardous substances or equipment.

- No poles, planks or building/waste materials should be left outside of secure/safe storage areas unless in use. Such materials should not be placed where they can be tripped over or stacked such that they could jab passers-by. Sharp ends and nails should not be protruding. Stockpiles should not exceed 2m in height.
- Vehicles and machinery should be inspected daily to check they are not spilling any fuel or oils. Where leaks are detected, they should either be sealed or drip trays placed under the point where leaks are occurring.
- At the end of the working day, the construction site should be inspected to ensure all the above mentioned matters are addressed.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

Notes in Respect of Category 2

- Ensure all labourers and staff are wearing the required Personal Protective Equipment (PPE). The minimum requirement is a hard hat and safety shoes. Safety glasses, visors, dust masks and gloves should be worn for activities such as welding and grinding. Scaffolding should be in place where labourers are working at a height of greater than 2m. Should gloves or a hard hat be difficult to wear for more intricate jobs (eg painting above head height), then they should still be kept at hand for use when such a task is complete. A standard overall should be worn by all employees for easy identification. Site Foremen and Team Leaders should set an example with the wearing of PPE.
- All sub-contractors should be inducted and trained regarding the EMP and they should also wear PPE.
- All visitors to the construction site should sign-in in a register, be issued with PPE and be inducted on safety matters. A record of such activity should be kept.
- No open fires should be allowed except where this is permitted for cooking and warmth purposes. Firewood should not be sourced from the environment next to the construction site.
- Ensure any fire-fighting extinguishers and first aid kits are accessible and fully operational. Emergency services contact numbers (police, ambulance, fire brigade etc) should be on hand.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

Notes in Respect of Category 3

- Adequate waste containers should be placed on site to prevent littering. The construction sites should be regularly checked to ensure waste has not been left to blow around the site. Waste containers should also be capable of being closed or sealed off to prevent waste from being blown around.
- If waste can be recycled or reused in the region, then waste on site can be separated into different containers to assist in this regard. At some waste disposal sites, recyclers may be present who retrieve certain wastes for reuse. If this is noted, then separation of waste on the construction site may be warranted.
- When waste is taken to a landfill site for final disposal, if the site does not issue a record of the waste disposed, then keep a record at the construction site of the amount/volume of waste taken to the disposal site.
- No waste should be burned on site or in the waste containers, except in the case of paper and wood which can be safely burnt for fires used for cooking or warmth.
- Any spills of fuel, paint or other potentially hazardous substances should be cleaned up immediately and the waste containerized. This waste should ideally be taken to a hazardous waste site if one is available; alternatively, it should be adequately sealed for disposal at a general waste disposal site. Maintenance and washing of vehicles and equipment should take place on a hard impermeable (and preferably bunded) surface.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

Notes in Respect of Category 4

- Potable water should be seen as a scarce resource and not wasted. Taps should not be left open. Leaking taps should be repaired. Water should not be allowed to run away from the ground beneath the tap and erode the soil. A hard surface should be installed beneath taps and any flow of water from the area beneath the tap should be safely channeled to plants or to an area where it does not present a hazard.
- Stormwater needs to be managed during the wet season. It should not be allowed to drain into excavations, nor should it be allowed to flood areas where materials and equipment are stored. A plan should be in place to manage stormwater and this must be approved by the RE and the environmental specialists in the Consulting Team.
- Should groundwater be intercepted during excavation work or during construction activities in the wet season, the Site Foreman and RE should be informed and a plan to protect the groundwater table must be approved by the RE and the environmental specialists in the Consulting Team. Any water pumped out from excavations or construction areas must be safely disposed of with the approval of the Site Foreman and RE.
- All wastewater from construction activities and the Contractor's camp must be channeled to lined pits. This includes wastewater from vehicle wash-down and maintenance areas, from areas used to wash tools and brushes used in concrete mixing and painting and from showers and cooking areas.
- Toilets and sanitation facilities should be checked daily for health reasons and records kept of when such facilities are emptied or replaced. Soap, toilet paper and other cleansing materials should be kept in stock.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

Notes in Respect of Category 5

- Records should be kept of all complaints received from members of the public or local community. Key stakeholders such as headmasters of schools and community representatives should be consulted on a regular (preferably daily) basis to confirm there are no problems as a result of construction activities. The nature of any complaints should be noted together with the action taken to address the problem, including action to prevent a recurrence of the problem.
- Any observations where local community members' (or schoolchildren at school construction sites) behavior interferes with construction staff and construction activities, or where construction staff behavior affects community members/schoolchildren, should be noted and brought to the attention of the Site Foreman. Local livestock and wild animals should be left undisturbed.
- A supply of male and female condoms should be kept on site and records kept of when they are issued or supplies are replaced.
- Ensure posters, pamphlets and information about HIV/AIDS, STDs, TB and general health are readily available on site and placed on notice-boards.
- Records should also be kept of the number of women employed on site and any incidents where they feel they are being discriminated against in terms of access to facilities etc.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

Notes in Respect of Category 6

- Access roads should not be allowed to become seriously damaged or unusable as a result of construction activities.
- Borrow pits (sand mining) and the access roads to them should be restored and left safe after use.
- Any disturbances resulting in excessive dust or noise generated as a result of construction activities should be noted and mitigation measures implemented as per the EMP.
- Ensure sensitive areas (eg watercourses, boreholes, oshanas, graveyards, neighbouring land uses, mature trees and areas of undisturbed vegetation) are taped off from the construction areas and educate the staff that such areas are off-limits.

- Ensure all safety, health and environmental awareness/training records are up to date.
- Any observations made where non-compliance with the above matters is noted should be recorded in the comments area of the checklist and the measures taken to address the problem recorded.

NB. Note that completion of the checklist each day does not absolve the on-site safety, health and environmental representative(s) from ensuring all conditions in the EMP/PHPSAPs are adhered to. If in doubt about actions to take, consult the full EMP/PHPSAP documents which should be kept on site.

APPENDIX B

Borrow Pit Rehabilitation Checklist

Date: _____

Borrow Pit Name and Number: _____

Location (road-km / GPS coordinates): _____

The above borrow pit shall only be handed over once all of the listed criteria have been met by the contractor.

Item No.	Description	Comments	Complies
			Yes / No
1.	The floor is level and no man made topographical high or low points are present in the borrow pit		
2.	The site in and around the pit is clear of any illegal dumping of foreign material, spoils and construction waste		
3.	Gradients of the pit slopes are less than 18 degrees (1:3) and are finished perpendicular to the slopes to prevent water erosion		
4.	The slopes are covered with overburden/top soil, if available, with a thickness of not more than 300 mm		
5.	Available dead vegetation is placed on the slopes of the borrow pits		
6.	The berm of excess soil outside the pit is not higher than 1.0 m, sloped 1:3 and min. 3.0 m away from the edge of the pit and min. 9.0 m away from any structure		
7.	There are no walls or steps present in or around the borrow pit, if so, then the pit has been fenced off according to spec.		
8.	All alien vegetation has been removed from the floor, the slopes and berms of the pit		

Land Owner: _____ _____
(Name) *(Signature)*

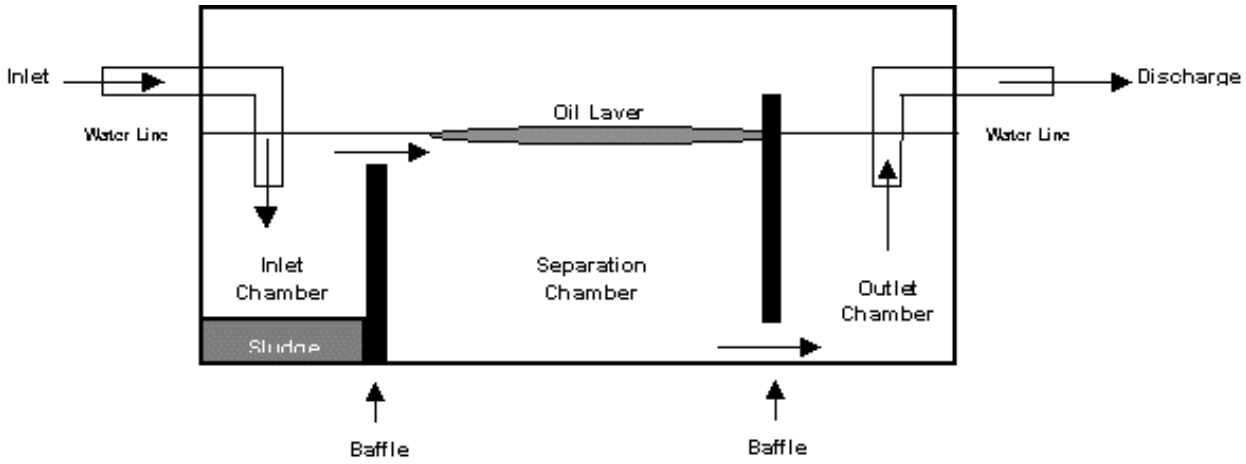
Contractor: _____ _____
(Name) *(Signature)*

Consultant: _____ _____
(Name) *(Signature)*

Client: _____ _____
(Name) *(Signature)*

APPENDIX C

Oil – Water separator



This is an example of a very simple but effective silt / oil water separator that should be constructed at the wash bays of all the construction sites. It should be noted that REGULAR cleaning is required to ensure effectiveness. Sludge removal and oil skimming is two maintenance actions required to ensure effectiveness.

APPENDIX D

Curriculum Vitae of the Compiler

1. **Proposed Position** : Environmental Consultant
2. **Name of Firm** : Enviro Management Consultants Namibia
3. **Name of Personnel** : Rian du Toit
4. **Date of Birth** : 02 February 1971
5. **Nationality** : Namibian

6. Education:

Years	Institution	Degree/Diploma
1994	University of Pretoria	B.A.
2001	University of South Africa	B.A. (Hons) Geography
2015	University of Pretoria	M.A. Environment and Society

7. Publications:

Investigate and classify the distribution and movement patterns of Oryx gazelle (Gemsbok) in the Greater Sossusvlei – Namib Landscape (GSNL), 2015. University of Pretoria.

8. Other Training:

Years	Institution	Certificate
2004	SGS	ISO 14 000 Lead Auditor
2004	SGS	FSC Auditor

9. Countries of Work Experience:

Years	Work Done	Country
1996 - 2001	Full time teacher in Geography Senior Grades (Gr 10-12)	South Africa and Namibia
2002 - Present	EIA's, EMPR's, Basic Assessments, Scoping Reports, Mining Right Applications, Project Management	South Africa
2007 – Present	EIA's, EMPR's, Scoping Reports, Mining Right Applications, Project Management	Namibia

10. Employment Record:

Years	Company	Position Held
1996 -1998	Moria Private School	Teacher
1999 - 2000	Omaruru Private School	Head Master
2001-2002	Eldoraigne High School	Teacher
July 2002 to present	Enviro Management Consultants	Owner

December 2009 to present	South Africa Enviro Management Consultants Namibia	Owner

11. Work undertaken that best illustrates capability to handle the tasks assigned:

Name of assignment or project:	Kghapamadi Road upgrade – 2002
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact Assessment and Environmental Management Plan compilation.

Name of assignment or project:	Uitkyk Village – Road construction - 2002
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	D1417 – Road Construction - 2003
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Mafikeng – Extention 14 road upgrade - 2003
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Mantsa and Tshunyane Village, bulk water supply - 2003
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact assessment.

Name of assignment or project:	Ledig Village, bulk water supply - 2003
Main project features:	EA – Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Langkloof, bulk water supply - 2004
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	North West Province Hospital bulk water supply and sewage management - 2004
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Delareyville Sewage Plant upgrade - 2004
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	One and Ten Village VIP toilets construction - 2005
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Mogogelo Village - VIP toilets construction - 2005

Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.
Name of assignment or project:	Ledig Hospital sewage plant - 2005
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Nietverdient SAPS Sewage Treatment Plant - 2005
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact Assessment.

Name of assignment or project:	Mathukuthela Village 22kVA network - 2006
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Tweelaagte Village 33kVA network - 2006
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Taiwan Village 22kVA network - 2006
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Mmakaepea Village 22kVA network- 2007
Main project features:	Environmental Assessment: Scoping compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Rustenburg bulk fuel storage (200 000 liter) - 2007
Main project features:	Environmental Assessment: Basic Assessment compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Bultfontein bulk fuel storage (220 000 liter) - 2007
Main project features:	Environmental Assessment: Basic Assessment compilation for listed activity required Environmental Impact assessment and Environmental Management Plan compilation.

Name of assignment or project:	Upgrading for the ENGEN group of four bulk fuel depots: - Otjiwarongo, Usakos, Sesriem, Khorixas - 2008
Main project features:	Environmental Assessment and Environmental Management Plan compilation.

Name of assignment or project:	Mining Right Application – Dormell Properties – 2007 - 2008

Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Hernic Ferrochrome Mine Mining Right Application – 2006 - 2008
Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Kameeldrift Mining right application – 2006 - 2008
Main project features:	Mining right application which involves the following: - Scoping Phase; EIA Phase; EMP Compilation;

Name of assignment or project:	Boekenhoutkloof Mining right application – 2006 - 2008
Main project features:	Mining right application which involves the following: - Scoping Phase; EIA Phase; EMP Compilation;

Name of assignment or project:	Ngqura Brick – EMPR Revision – 2006 - 2008
Main project features:	Environmental Management Program revision and update.

Name of assignment or project:	Pretoria Bricks - 2008
Main project features:	Environmental Management Program revision and update.

Name of assignment or project:	Leeufontein Stene Mining Right Application - 2008

Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Corridor Stene Mining Right Application - 2009
Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Karibib Portland Cement Mining Right Application - 2009
Main project features:	Mining right application which involves the following: - Scoping Phase; EIA Phase; EMP Compilation;

Name of assignment or project:	Namibia China Mineral Resources Investment and Development – Uranium EPL - 2010
Main project features:	Compilation of the EIA and EMP for the prospecting operation.

Name of assignment or project:	Rundu- Nkurenkuru, upgrading of roads - 2010
Main project features:	EMP Compilation and Monitoring
Name of assignment or project:	WG WEARNE Group: Platkop Mining Right Application - 2010
Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Goedehoop Stene CC Mining Right Application - 2010

Main project features:	Mining right application which involves the following: - Public Participation Process; Scoping Phase; EIA Phase; EMP Compilation; Specialist Project Management

Name of assignment or project:	Navacab Gold Mine – Anomaly 16 extention of mine - 2011
Main project features:	- Risk assessment; EIA Compilation

Name of assignment or project:	Feasibility Study for the partial improvement of Trunk Road 2/1(the coastal road) and upgrading to bitumen surfaced standard of Main Road 44(the inland road) between Walvis Bay and Swakopmund - 2011
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Simanya Lodge - 2012
Main project features:	Environmental Assessment and EMP.

Name of assignment or project:	Construction of labour base roads – DR 3671 and DR 3672 - 2012
Main project features:	Compilation of the EIA and EMP as well as Performance Assessments on the EMP.

Name of assignment or project:	Review of the basic planning for TR9/1 & TR6/1Windhoek to Hosea Kutako Airport Future Southern Bypass and Freeway - 2012
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Upgrading of NBC infrastructure – Digital Terrestrial Television Infrastructure Rollout. - 2012
Main project features:	Compilation of the EIA's and EMP's as well as Performance Assessments on the EMP.

Name of assignment or project:	Construction of labour base roads – DR 3427, DR3448 and DR 3449 - 2013
Main project features:	Compilation of the EIA and EMP as well as Performance Assessments on the EMP.

Name of assignment or project:	Feasibility Study for the Aus – Bethanie – Walvis Bay road link. - 2013
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Upgrading of the Roads Authority Environmental Manual - 2013
Main project features:	The revision of the current Roads Authority Environmental Manual to get in line with the current Namibian Environmnetal Law and procedures.

Name of assignment or project:	The construction of the Otjinene – Grootfontein road. Upgrading and re-alignment to bitumen standard. - 2013
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	Construction of labor base roads – DR 3657 and DR 3649 - 2014
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or	Construction of 5 State Veterenary Offices: Outapi,

project:	Omuthiya, Eenhana, Okakarara and Epukiro. - 2014
Main project features:	- EIA; EMP; Performance Assessment

Name of assignment or project:	Construction of a water pipeline at Omuntele and King Kauluma – Oshana Region - 2014
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	The construction of DR3608 in the Northern Parts of Namibia. - 2014
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	The construction of road between Gobabis and Aranos - 2014
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	The construction of road between Oranjemund and Rosh Pinah. - 2014
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	The construction of DR3508 in the Zambezi Region. - 2014

Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	Okahandja – Karibib road construction (from km 77 – Karibib) - 2015
Main project features:	Compilation of the EIA and EMP as well as Performance Assessments on the EMP.

Name of assignment or project:	Township establishment for Many Hills and Baumgartsbrunn West. Khomas Region. - 2015
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Construction of Freeway between Windhoek and Okahandja – 2014 to 2015
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	De-bushing and De-mining project for the northern border of Namibia between Bagani and Katima Mulilo. - 2015
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	Feasibility study for the possible rehabilitation options for the road between Gobabis and Buitepos. - 2016
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	The construction of road DR3524 – Zambezi Region - 2017
Main project features:	Conducting the EIA process and EMP compilation for this project. Conducting the Environmental Performance Assessment (Environmental Auditing) for the duration of the project.

Name of assignment or project:	Feasibility Study for the investigation for road preservation and rehabilitation of TR3/1 (179km): Grunau – Karasburg – Ariamsvlei. - 2017
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Feasibility Study for the upgrade to bitumen standard of MR 27 – Keetmanshoop – Aroab – Klein Menasse in the !Karas Region. - 2017
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Investigation for the road preservation and rehabilitation of TR8/4: Rundu – Divundu. - 2018
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Part of the team to oversee the National Re-seal and rehabilitation process of bitumen roads within Namibia together with Element Consulting Engineers. -2018
Main project features:	Conduct Environmental Performance Assessment site visits and reports for three seperate contracts within Namibia.

Name of assignment or project:	Support to AFD in Identifying a Road Sector Program and Soft Loan on Rehabilitation, Road Safety and Capacity Building Through Consultation With The Relevant Authorities - 2018
Main project features:	The appointed team sets out to support the Agence Francaise de Developpment (AFD) in identifying a road sector program and granting soft loans on rehabilitation,

	road safety and capacity building for projects within the Namibian road sector.

Name of assignment or project:	The construction of DR3524 in the Zambezi Region. - 2018
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	The construction of DR3546/7 in the Zambezi Region. - 2018
Main project features:	Conducting the EIA process and EMP compilation for this project.

Name of assignment or project:	Upgrading of the railway line between Walvis – Bay and Kranzberg. - 2020
Main project features:	Appointed as an external HSE consultant on the project. Facilitate all related Health, Safety and Environmental concerns on this project and conduct monthly visits as to ensure compliance.

12. References:

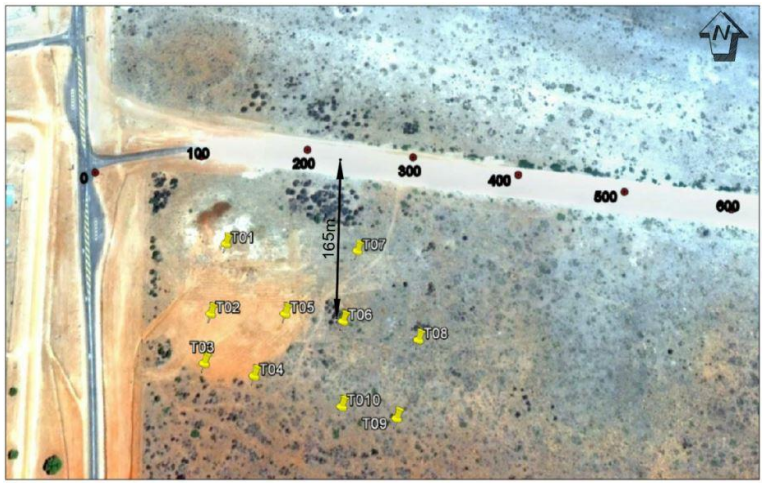
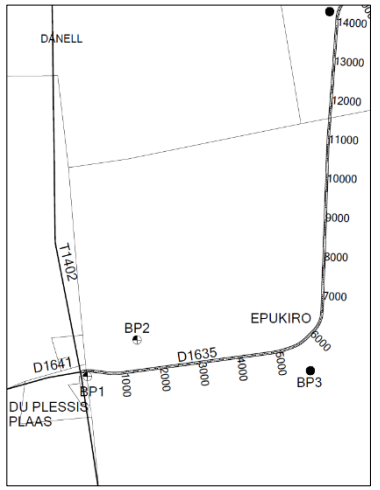
Contact person	Firm	Telephone	E-mail
Mr. H Klink	VKE Namibia	+264 (061) 237642	heiko.klink@vkenamibia.com
Mr. H Kotze	Element Cons Engineers	+264 (061) 309 416	hentie@element.com.na
Mr. A Vivier	WML Cons Engineers	+264 (61) 220 285	allan@wmleng.com

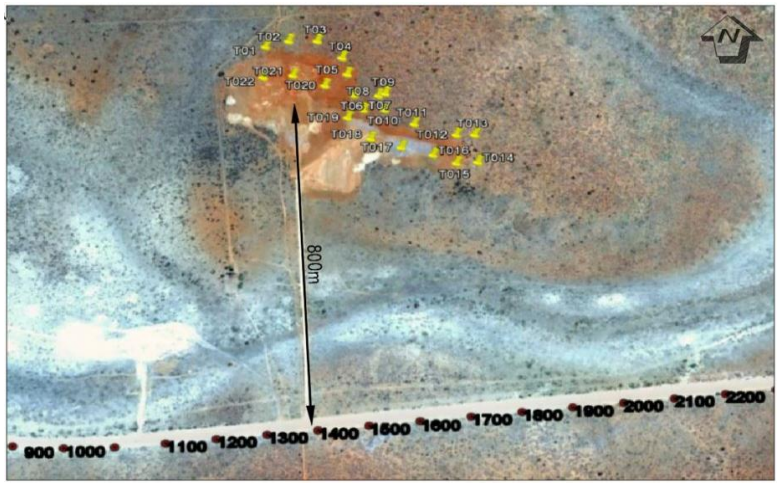
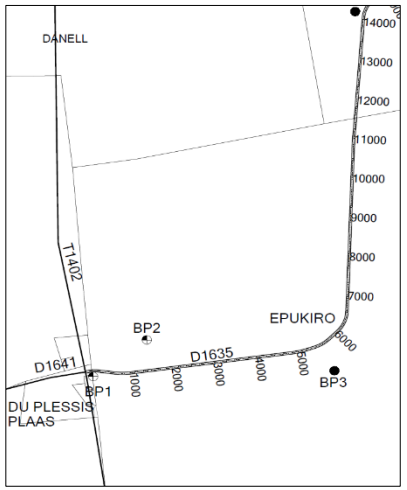
Certification:
I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

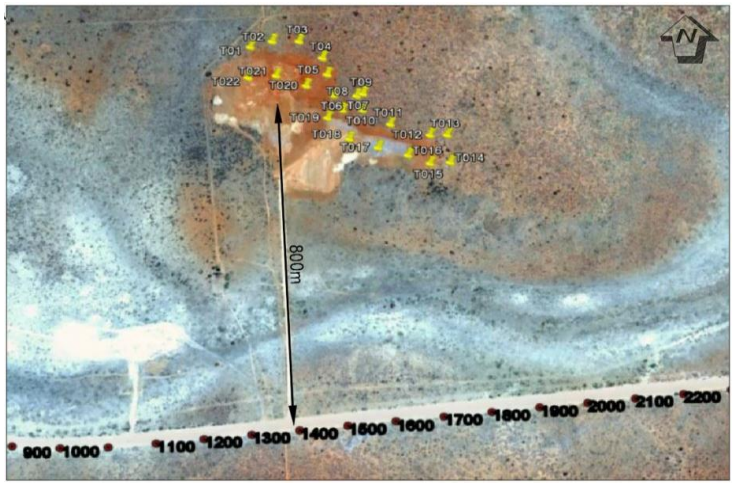
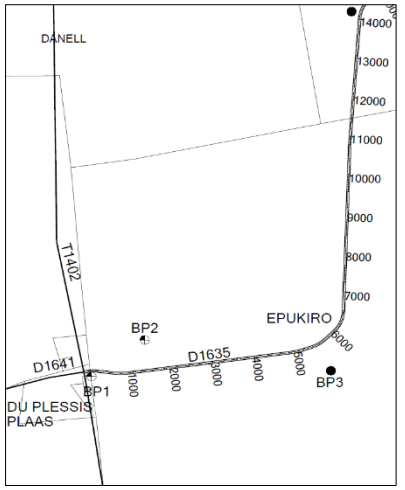
APPENDIX E

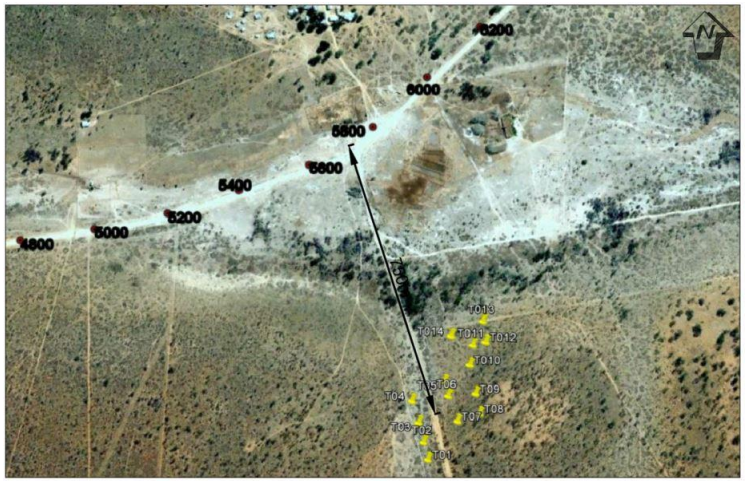
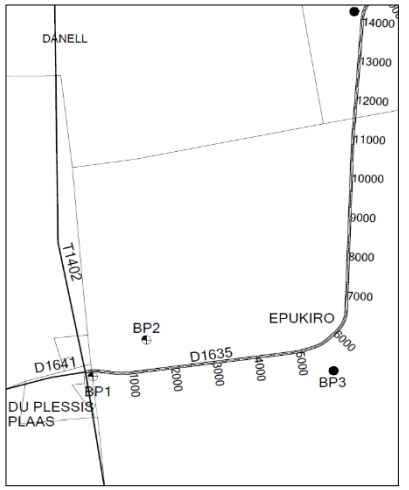
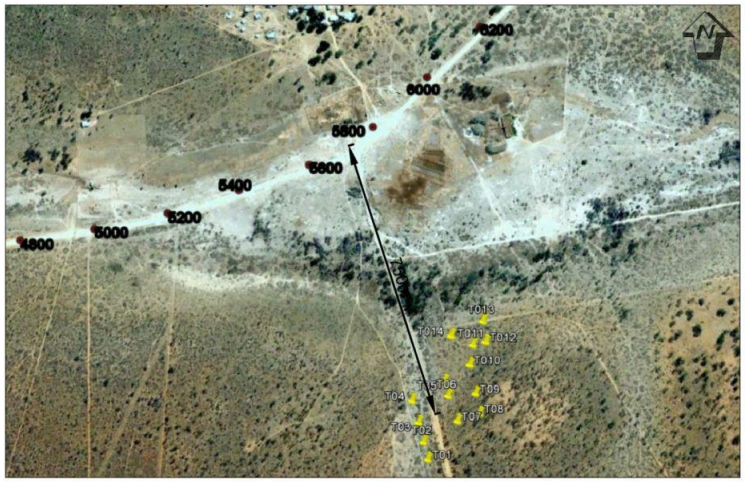
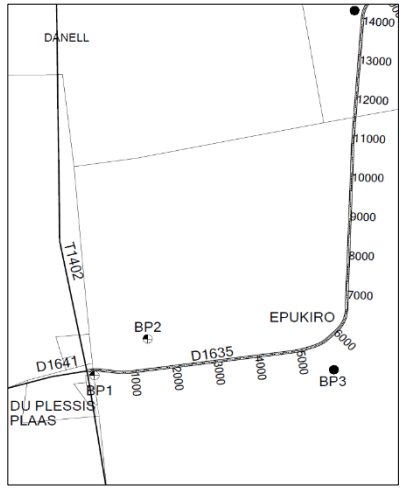
Borrow Pits to be used

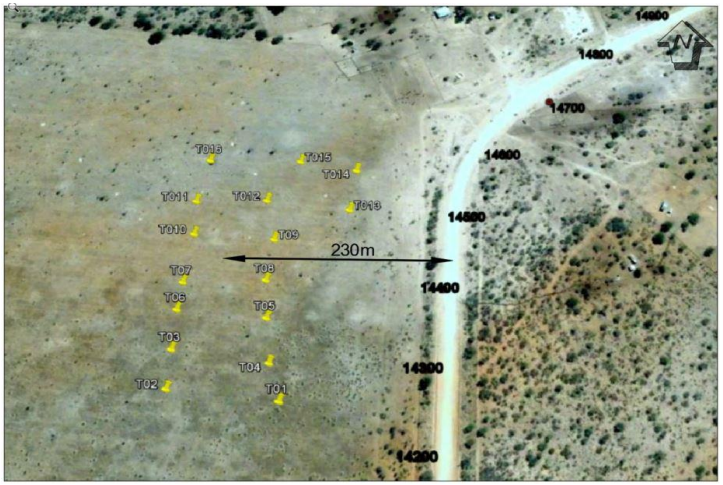
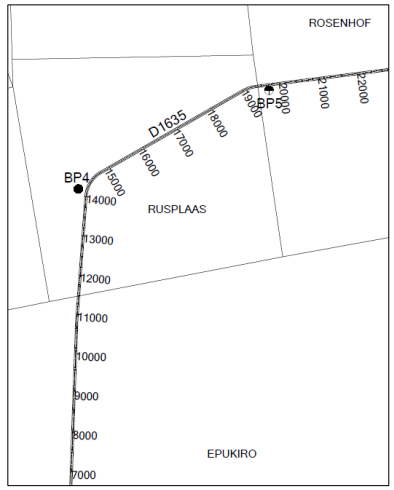
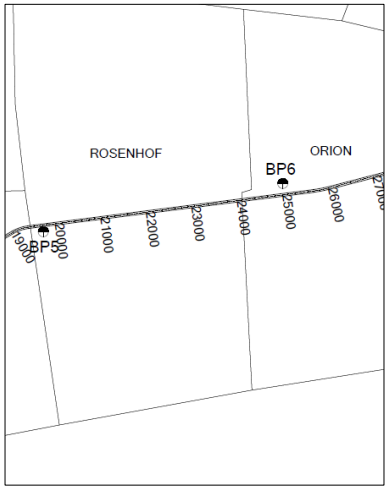
BORROW PIT INFORMATION

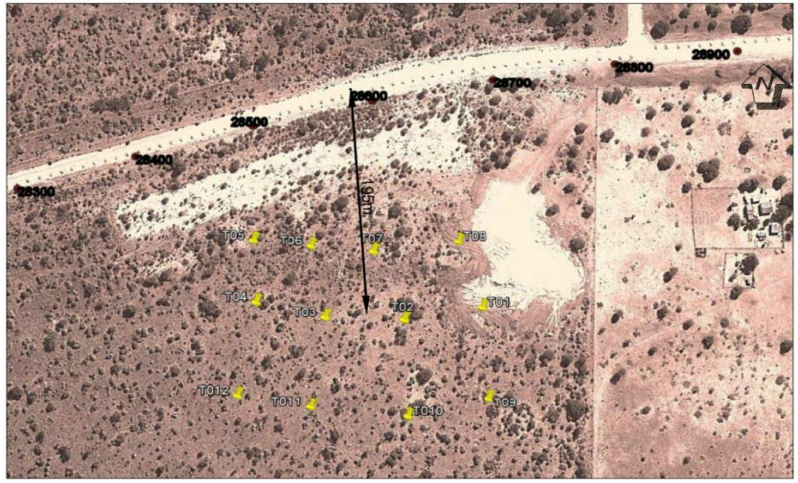
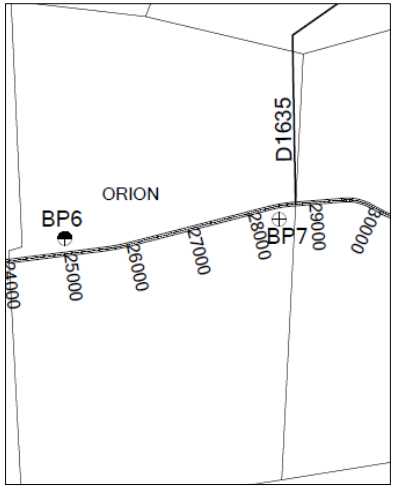
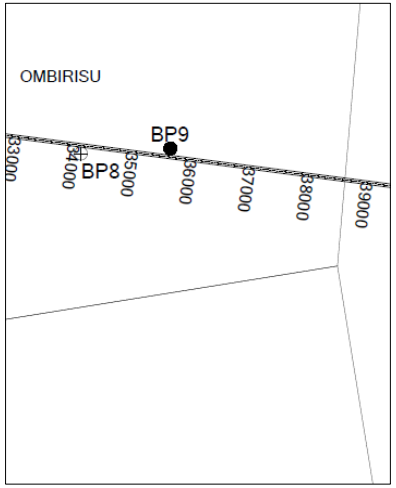
Nr.	BP Plan	GPS Coordinates	Locality Sketch
1		1 S21.70685 E19.05001 2 S21.70741 E19.04994 3 S21.70779 E19.04993 4 S21.70787 E19.05036 6 S21.70743 E19.05108	

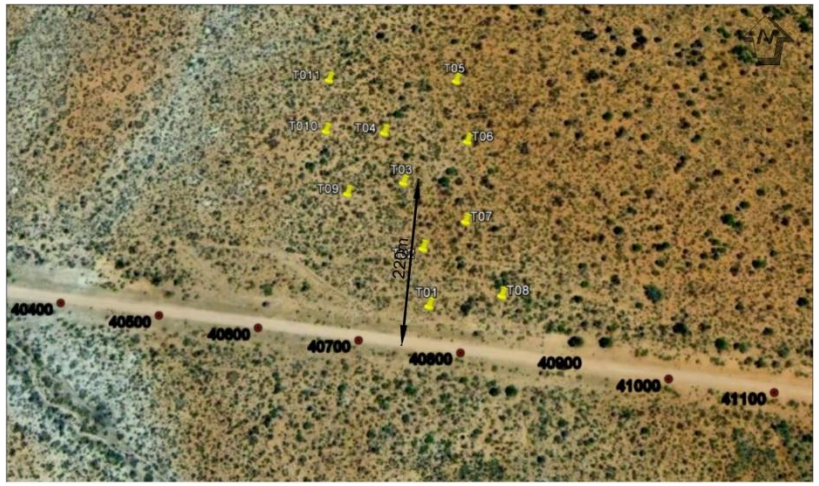
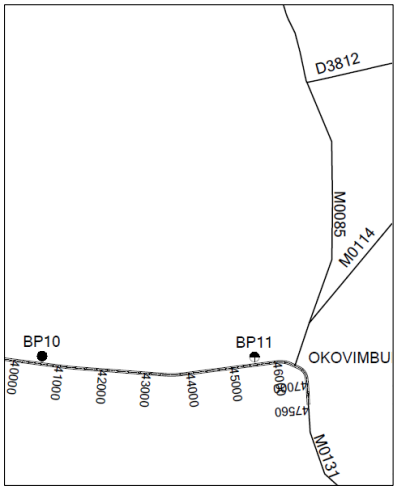
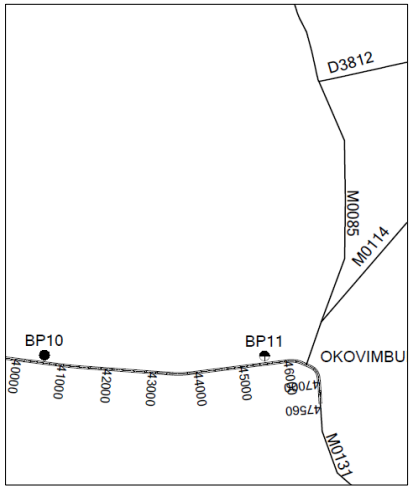
2(a)		1 S21.69785 E19.06087 2 S21.69772 E19.06131 3 S21.69771 E19.06186 4 S21.69807 E19.06235 6 S21.69889 E19.06260 9 S21.69884 E19.06320 10 S21.69920 E19.06320 11 S21.69950 E19.06377 13 S21.69971 E19.06493	

2(b)		15 S21.70034 E19.06460 16 S21.70017 E19.06415 17 S21.70002 E19.06354 18 S21.69984 E19.06295 19 S21.69939 E19.06250 20 S21.69869 E19.06204 22 S21.69853 E19.06085	

3(a)		1 S21.70763 E19.10518 3 S21.70674 E19.10495 4 S21.70621 E19.10479 5 S21.70575 E19.10562 6 S21.70610 E19.10571 8 S21.70653 E19.10651 9 S21.70605 E19.10641 10 S21.70535 E19.10627 11 S21.70487 E19.10635	
3(b)		12 S21.70480 E19.10668 13 S21.70429 E19.10662 14 S21.70464 E19.10580	

4(a/b)		1 S21.62463 E19.11110 2 S21.62449 E19.10998 3 S21.62407 E19.11000 4 S21.62423 E19.11099 5 S21.62374 E19.11095 6 S21.62363 E19.11002 7 S21.62332 E19.11006 8 S21.62331 E19.11093 9 S21.62283 E19.11100	
6		1 S21.59086 E19.20667 2 S21.59077 E19.20738 3 S21.59078 E19.20814 4 S21.59131 E19.20839 5 S21.59147 E19.20772 6 S21.59154 E19.20706	

7(a/b)		2 S21.58807 E19.24104 3 S21.58803 E19.24042 4 S21.58789 E19.23988 5 S21.58739 E19.23988 6 S21.58745 E19.24033 7 S21.58751 E19.24082 8 S21.58745 E19.24149 9 S21.58873 E19.24168 10 S21.58885 E19.24104	
9(a/b)		1 S21.59413 E19.30942 2 S21.59408 E19.30871 3 S21.59398 E19.30796 5 S21.59321 E19.30856 6 S21.59308 E19.30913 7 S21.59238 E19.30923 8 S21.59232 E19.30815 9 S21.59232 E19.30744 10 S21.59428 E19.31060	

10		1 S21.59992 E19.35686 2 S21.59939 E19.35680 3 S21.59876 E19.35660 4 S21.59826 E19.35640 7 S21.59914 E19.35721 8 S21.59983 E19.35755 10 S21.59823 E19.35581 11 S21.59770 E19.35582	
11(a/b)		1 S21.60013 E19.40188 2 S21.59995 E19.40282 3 S21.59976 E19.40389 4 S21.59897 E19.40360 5 S21.59902 E19.40275 6 S21.59909 E19.40170 7 S21.59829 E19.40162 8 S21.59815 E19.40252 9 S21.59809 E19.40341	

APPENDIX F **Public Participation Process**

Environmental Impact Assessment for the Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

Meeting Minutes

Type of Meeting: **Public Consultation Meeting**
Venue: **Du Plessis Plaas**
Time: **14h43 – 15h50**

Agenda

1. Welcome – Honourable Councillor Rocco Nguvauva
2. Prayer
3. Project Team Introduction – Rian du Toit
4. Environmental Impact Assessment (EIA) – Rian du Toit
5. Project Scope – Peet Bezuidenhout
6. Q&A
7. Word of Thanks
8. Prayer

1. Welcome — Honourable Councillor Rocco Nguvauva, Okorukambe Constituency

2. Prayer — Community

3. Project Team Introduction — Rian du Toit, Consulting Team

- Enviro Management Consultants (EMC) – Mr Rian du Toit & Ms Maike Prickett
- Element Consulting Engineers – Mr Peet Bezuidenhoudt
- Roads Authority – Mr Benson Namupala

4. EIA Presentation *(see attached presentation document)* — Rian du Toit, Consulting Team

- *What is an EIA? It is a practical implementation to prevent negative and improve positive impacts.*
- *Environment defined - bio-physical (water, soil, plants, etc), social and legislation*
- *Impacts – what we do and how that changes the environment (cause and affect)*

- *Building a road: what is needed to build the road (layer works, materials), how does that change the environment, during operation what are the positive or negative effects of the road on the environment*

- *Rules and Regulations/Legislation – **Constitution of Namibia, Environmental Management Act No.7 (2007)***
- *What is the ultimate objective of an EIA? To maintain sustainability - a balance between development and conservation*
- *Normal stakeholder concerns of road development projects:*
  - *Land – taken and no benefit to stakeholder*
  - *Water / Materials*
  - *Consider the gain of such a project: economic gain*
- *The objective of EMC is to:*
  - *Consult the public, stakeholders that know the area need to give their input (comments and concerns)*
  - *Consider the negative and positive impacts*
  - *Present and Submit EIA and application for Environmental Clearance Certificate (ECC) application to the Ministry of Environment, Forestry and Tourism (MEFT) – they grant or reject ECC*
  - *If ECC is granted, it is valid for 3 years, once this has been issued the project can commence. We need to avoid/minismise/reduce the negative impacts and enhance the positive impacts.*
    We want to avoid – spillage, pollution (surface water/soil, etc), bad waste management practices, etc.
  - *Borrow pits: they must be left by the contractor in an acceptable condition.*
  - *Examples of good practices (shown during presentation): construction camp, waste management, borrow pit rehabilitation (Whk/Okh road)*
- *We need to strike a balance between development and conservation – to ensure that someone does not lose to the cost of someone else winning = sustainability.*
- *You are welcome to raise your comments and concerns.*

5. Project Scope – Technical Presentation — Peet Bezuidenhout, Consulting Team

- *Project Background*
  - *July 2016 – Appointment of Element Consulting Engineers for design, tender documentation & site supervision*
  - *February 2017 – Submit Draft Design Report*
  - *March 2017 – Submit Draft Tender Documents & Drawings (no funding for implementation of project*
  - *March 2021 – Revise design to LVS standards*
  - *April 2021 – Revise Tender Documents*
  - *May 2021 – Repeat Public Participation Process*
- *Low Volume Seal Standards*
  - *Similar to normal bitumen surfaced road, at lower design standards:*
    - *Slightly narrower cross section: 2 x 3.4m lanes vs. 2 x 3.7m lanes*
    - *Reduced structural design life*
    - *Lower drainage standards*
  - *Motivation:*
    - *More economical: LVS = **N$ 3 – 3.5 million / km** vs. N$ 7 - 9 million / km*
    - *Limited budget*

        - *Extend the impact of the limited budget*
- *Phased Implementation*
    - *Roads Authority intends to ultimately upgrade the entire road*
    - *This project involves Phase 1: 8 km from Du Plessis Plaas*
    - *Subsequent phases to be implemented as funding becomes available*
- *Phase 1*
    - *Length: 8km*
    - *Duration: 5.5 months*
    - *Budget: N$ 26 million*
    - *SME Participation: 10% of contract value*
    - *Labour: All unskilled labour to be recruited locally*

6. Questions & Answers

Q1. Honourable Ignatius Kariseb:

a. Thank you for the presentation. I would also like to thank the RA that they have decided to go ahead with the project and to the delegation for being here and starting this process. Talks about this road were started in 2012 by Mrs Ruth Mbura, I am happy that she is here today to see that all her hard work was worth it.
b. I know that the phased construction is a concern, but I think we are in good hands with the Hounourable Councillor to push this project because he is part of the National Council.
c. Speaking from experience, the work on roads being constructed is being taken away from locals by people from outside, who pretend that they area from this area. My proposal is to let the Regional Council / Councillor do the appointments. It should be made a priority that people from this constituency should be employed on the project so that the local communities can benefit.
d. The good thing in this constituency is that people have experience from working on the Gobabis – Grootfontein road (Basil Reed & Taupele), 80% of people here are skilled.

   Response (Benson Namupala): Thank you to everyone for coming to achieve our EIA objective. The SME part of the project is a burning issue, everyone looks at it from a different perspective. People from all over the country feel that they are citizens and are allowed to participate, but we are of the opinion that the people from the affected communities should get the benefit in terms of employment and as SME's, if the capacity is there. Our CEO is also saying let the people from the area benefit first. We would like to include this in our bid advertisement, so that contractors know what the expectation is and we need to write it into the contract of the contractor.

   It is good to know that there are so many people here that have experience in road construction, it is to our advantage.

   Phased approach, unfortunately there is no other alternative to do this, this project has started 2012 and lapsed because of no funding. Our Line Minister and CEO have committed to this project by starting with the 8km now, they have the opportunity to go back to Cabinet and request more funding to continue with the project. It is better to start with the 8km, instead of saying we don't want the road at all.

   Response (Peet Bezuidenhout): The principal will be that local SME's should be targeted by the contractor. It has been proposed to Councillors that they create a list with local SME names from which the contractor can draw.

Q2. Venantius Karabo:

Number of people recruited on the 8km?

Response (Peet Bezuidenhout): It is a small project and we cannot answer that now, but it depends on the contractor and the plant that they are bringing.

Q3. B.K. Langman:

I am happy about the project, but I am concerned about the phased approach. People with no experience will not get jobs.

Q4. Honourable Ignatius Kariseb:

As proposed previously, people from the area skilled and unskilled should be employed on the project and people from outside should not be brought in.

Another proposal is when the contractor comes, to not let machines do all the work, then money only goes to one person. Consider the unemployment rates in this area.

Response (Rian du Toit): We hear you. We wish we could resolve all unemployment issues, but we can't.

Response (Peet Bezuidenhout): You could do a labour-based road, but it is more expensive, and the quality is less. There are certain aspects during the construction that require more labour for which people will be employed.

Q5. Venantius:

Was it considered to extend the road to Epukiro RC. There is a school and a clinic, ambulances need easier access.

What is the recruitment process? 80% of the road is in Okorukambe constituency, don't employ people from other areas.

Response (Peet Bezuidenhout): Road to Epukiro RC is not part of our scope, but it could become part as the RA's policy is to provide access to all social, health and educational facilities. It will be presented to the RA.

Q6. Donald Tshwaro:

Where will the RA get water? Have boreholes been selected? There is a borehole at Epukiro RC which has got water, but no installations to pump water.

Response (Peet Bezuidenhout): It was looked at during the design, but no boreholes were earmarked. The contractor will send someone to consult with the communities regarding available water. At water schemes the contractor will have to negotiate with the community for water. If you have water sources that could be available for construction, please convey this to the Councillor's Office.

Response (Benson Namupala): In 3 months' time we will be in a position to appoint a contractor and we (RA) will bring the CEO & contractor to site to introduce the contractor and to liase with Councillors and to discuss water and accommodation. The contractor decides where to stay and where to get water.

Q7. B.K. Langman:

What about the road construction and corona?

Response (Rian du Toit): Ministry of Health and the contractor will need to handle that, and protocols will have to be followed.

Q8. Willie Kakujaha:

Can this road not be longer than 8km?

Response (Councillor Nguvauva): There has been a lot of talk about this road, and there is little money, but let's start with these 8km.

7. Word of Thanks

Ruth Mbura
Thank you to the team for coming and listening to us. This project started in 2012 and was stopped because of no funds. We must start, even if it is only 8km now, but we as leaders must push for additional funding at the ministry. It is true that there are people here with work experience, take your names to the Council Office and take this message to the other people. We hope that this project will start in 3 months.

Honourable Rocco Nguvauva
I have been getting calls about when this project will start, now I can tell people it will start in 3 months as we were told by the consultants.

8. Prayer — Community Member

End of meeting 15:50

ATTENDANCE REGISTER

DATE: 01 June 2021 VENUE: Du Plessis

Epukiro R.C. Residents

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

	NAME	EMAIL	CELL NR	SIGNATURE
1	Irmgardt M. Monee	/	0814023376	[signature]
2	Didimalang C G Joodt	/	0813282778	[signature]
3	Beverley Mogotsi	/	C	
4	Camalila Bruinzil	/	0818731107	[signature]
5	Kela Reed	/	0816137878	[signature]
6	Siphora Sebetwane	/	0817666755	Siphora
7	Cynthia Tshwaro	/	0813520478	[signature]
8	Keselepile Tuala	/	0812747109	[signature]
9	Oswald Tibinyane	/	0819794502	[signature]
10	Belinda Britz	/	0812747107	[signature]
11	Legologile Motonane	/	0812029693	[signature]
12	Luciatha Karabo	/	0816486599	[signature]
13	Adelbertus Scott Madi	pho2aMofisto@gmail.Com	0812315310	[signature]
14	Venantius Karabo	/	0818709960	[signature]
15	Tshwaro Arnolda	/	0817796892	[signature]
16	Gwyneth Celine Auxas	auxasgwyneth5@gmail.com	0816643260	[signature]

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ELEMENT Consulting Engineers
A FIFTH DIMENSION TO ENGINEERING

ROADS AUTHORITY

ATTENDANCE REGISTER

DATE: 01 June 2021 Du Plessis VENUE: Du Plessis

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

	NAME	EMAIL	CELL NR	SIGNATURE
17	Moses Tjiuoro		0818302926	[illegible]
18	Simson Shalukeni		0812015853	S. S. [illegible]
19	Ella Shalukeni		0813282764	E. Shalukeni
20	Aloysia P. Kamanda	Petronellap.gmail.com	0818459952	[illegible]
21	Gregory Homeb		0818323594	[illegible]
22	Brucelee Kamanda	Bruceleekamanda@gmail.com	0818908797	Mr Kamanda
23	Henry Kerper		0814304834	Kerper
24	Ludwig Goeieman		0817948164	Goeieman
25	Stefanus Kangjoamm		0813314112	Kangjo
26	Jacob She		0814665910	J.S
27	Abraham Kashe.		0813043266.	A.K.
28	Hortjie Kashe		0816684637	H. K
29	Hendrik Dawe		0813256568	H. D
30	Bruno Mombe		0812641985	[illegible]
31	Justus Tjamena		0815805457	Justice
32	Martha Arebes		0812080063	M.Arebes

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ATTENDANCE REGISTER

DATE: 01 June 2021 VENUE: Du Plessis

Skoonheid residents

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

	NAME	EMAIL	CELL NR	SIGNATURE
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34	EDMUND Djaula		0813727543	O.B
35	Mokgoneni Phemelo		0814487126	
36	Pascaline Steenkamp		0814445146	
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38	Reinhilde Thataone		0813277288	
39	Magdalena Madu		0816032559	Madu
40	Rosamunde Motonane		0812411549	
41	Kevin Ivan ARNAT		0818374166	
42	Bardo Kauta		0814816541	
43	[illegible]		8705902174	
44	Pasiloza K. Kekuemang	prekuemang@gmail.com	0812534268	
45	Juanilna Tjibinyane		0813355554	Mbinyane
46	Queenton R D Ngobeta		0817287158	Ngobeta
47	Dalen Steenkamp		0816248066	
48	Bradley Steenkamp		0813256002	

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DATE: 01 June 2021 VENUE: Du Plessis

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

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50	Prokana Nkanane		0818709950	PNkanane
51	Ursula Nage		0817753663	UNage
52	Steve V.T. Mbakurapo		0817728935	[signature]
53	Patricius K. Alenilwe			Patricius K. Alenilwe
54	Franz Tibinyane		0812314113	[signature]
55	Felix Itiseng Mackreed		0818311604	[signature]
56	Moffart Mokwena		0813673748	[signature]
57	Bernardo D. Makgone		0812472899	BMakgone
58	Rosette Thataone		0813351522	R.Thataone
59	kedidimetse makgone		0813295794	[signature]
61	Valentia Goitseone		0812965977	Goitseone
62	Veronica Afrikaner		0818436249	V.Afrikaner
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65	Alfred Molelekeng		0814462162	AMolelekeng

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DATE: 01 JUNE 2021 VENUE: Du Plessis

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

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66	Mesek Uandjima		08169944262	Mesek
67	Hermanus Afrikaner		0816185930	
68	Modisa Theodor		0812523347	
69	Tumelo Goeieman		0817758168	
70	Willy Kakujaha		0814562776	
71	Goitsemang Gaonakgosi		0818378987	
72	Mosupi Udigeng		0812422899	
73	Ricardo SNEWE		08185 40202	
74	Katrina Swartbooi		0813150533	K. Swartbooi
75	Martha Thuesa		0813266593	M. Thuesa
76	Roline Hoxobes		0812455345	R. Hoxobes
77	ERika Afrikaner		0813266593	EA
78	Renatte Afrikaner		-	RA
79	Julia Uri-Khos		0817973117	Julia
80	Anna-Marie Bok		0817484546	AMB
81	Rosina Hoxobes		081-2577625	Hoxobes

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83	Claudius Slinger		0818758047	C.S
84	Hermanus Kotzer		0813175125	H.K
85	Bernhard Langman		0813648457	
86	Jacoline Langman		0814567683	
87	ERNST GOEIEMAN		0812779506	
88	Petronella Thom		0816153657	
89	Hoedjie Koe-Hoe		0812665808	H.K
90	Petrus Pard		0818560749	
91	Jakob Gabriel		0817471163	JG
92	Bernhild Sebetwane		081-2014741	B.S
93	Michael Mweshixua		0818078061	M.M
94	Vermentius Karabo		0812905409	V.K
95	Clayden Kgobetsi		0817835867	
96	Onalenna Tibinyane		0813969481	O.T
97	Ricardo Puturi		0817835862	R.P

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ATTENDANCE REGISTER

DATE: 01 June 2021

VENUE: Du Plessis.

PROJECT: **The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region**

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99	Priscilla Swartbooi		0818715843	P.S
100	Victoria Beukes		0816982713	V.B.
101	Christophine Jaagim		0814711917	C.J
102	Wilma Swartbooi		0817892188	
103	Magrietha Hoxobes		081 6603174	
104	TLAMELO UNIGENG		08181242b	[signature]
105	Petrus Tjongo		0813551999	[signature]
106	TheofiliusGOEIEMAN		0816603061	Goeieman
107	Camilius Arnat		0817095923	[signature]
108	Aloysius Molelekeng		0813480796	Molelekeng
109	Hendrina Nghidengwa		0816186821	H. Nghidengwa
110	HON. ROCCO NGUVAUVA		0811412318	
111.	HON. IGNATIUS GARISEB			
112.	CDE. RUTH. K. MBURA		0814976542	
113.	Mrs. SEUAA KAPAMA	seuaakapama@yahoo.co.	0811599239	

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Environmental Impact Assessment for the Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

Meeting Minutes

Type of Meeting: **Public Consultation Meeting**
Venue: **Epukiro Community Hall**
Time: **10h57 – 12h55**

Agenda

9. Welcome – Honourable Councillor Packy Pakarae |
10. Prayer
11. Project Team Introduction – Rian du Toit
12. Environmental Impact Assessment (EIA) – Rian du Toit
13. Project Scope – Peet Bezuidenhout
14. Q&A
15. Prayer

9. Welcome — Honourable Councillor Packy Pakarae, Epukiro Constituency

10. Prayer — Chief

11. Project Team Introduction — Rian du Toit, Consulting Team

- Enviro Management Consultants (EMC) – Mr Rian du Toit & Ms Maike Prickett
- Element Consulting Engineers – Mr Peet Bezuidenhoudt
- Roads Authority – Mr Benson Namupala

12. EIA Presentation *(see attached presentation document)* — Rian du Toit, Consulting Team

- *What is an EIA? It is a practical implementation to prevent negative and improve positive impacts.*
- *Environment defined - bio-physical (water, soil, plants, etc), social and legislation*
- *Impacts – what we do and how that changes the environment (cause and affect)*
    - *Building a road: what is needed to build the road (layer works, materials), how does that change the environment, during operation what are the positive or negative effects of the road on the environment*
- *Rules and Regulations/Legislation –* ***Constitution of Namibia, Environmental Management Act No.7 (2007)***

- ***Act No.7 (2007)***
- *What is the ultimate objective of an EIA? To maintain sustainability - a balance between development and conservation*
- *Normal stakeholder concerns of road development projects:*
    - *Land – taken and no benefit to stakeholder*
    - *Water / Materials*
    - *Consider the gain of such a project: economic gain*
- *The objective of EMC is to:*
    - *Consult the public, stakeholders that know the area need to give their input (comments and concerns)*
    - *Consider the negative and positive impacts*
    - *Present and Submit EIA and application for Environmental Clearance Certificate (ECC) application to the Ministry of Environment, Forestry and Tourism (MEFT) – they grant or reject ECC*
    - *If ECC is granted, it is valid for 3 years, once this has been issued the project can commence. We need to avoid/minismise/reduce the negative impacts and enhance the positive impacts.*
      We want to avoid – spillage, pollution (surface water/soil, etc), bad waste management practices, etc.
    - *Borrow pits: they must be left by the contractor in an acceptable condition.*
    - *Examples of good practices (shown during presentation): construction camp, waste management, borrow pit rehabilitation (Whk/Okh road)*
- *We need to strike a balance between development and conservation – to ensure that someone does not lose to the cost of someone else winning = sustainability.*
- *You are welcome to raise your comments and concerns.*

13. Project Scope – Technical Presentation — Peet Bezuidenhout, Consulting Team

- *Project Background*
    - *July 2016 – Appointment of Element Consulting Engineers for design, tender documentation & site supervision*
    - *February 2017 – Submit Draft Design Report*
    - *March 2017 – Submit Draft Tender Documents & Drawings (no funding for implementation of project*
    - *March 2021 – Revise design to LVS standards*
    - *April 2021 – Revise Tender Documents*
    - *May 2021 – Repeat Public Participation Process*
- *Low Volume Seal Standards*
    - *Similar to normal bitumen surfaced road, at lower design standards:*
        - *Slightly narrower cross section: 2 x 3.4m lanes vs. 2 x 3.7m lanes*
        - *Reduced structural design life*
        - *Lower drainage standards*
    - *Motivation:*
        - *More economical: LVS = **N$ 3 – 3.5 million / km** vs. N$ 7 - 9 million / km*
        - *Limited budget*
        - *Extend the impact of the limited budget*
- *Phased Implementation*
    - *Roads Authority intends to ultimately upgrade the entire road*
    - *This project involves Phase 1: 8 km from Du Plessis Plaas*

- *Subsequent phases to be implemented as funding becomes available*

- *Phase 1*
  - *Length: 8km*
  - *Duration: 5.5 months*
  - *Budget: N$ 26 million*
  - *SME Participation: 10% of contract value*
  - *Labour: All unskilled labour to be recruited locally*

14. Questions & Answers

Q1. Honourable Ignatius Kariseb:

e. Thank you for the presentations.
f. Regarding the Low Volume Seal – the traffic numbers on this road are low because the road is in a bad condition. We don't have the statistics.
g. Employment of SME's, in my 11th year as Regional Councillor and I am still not convinced how local communities with benefit from this project. From past experience, SME's from other areas make use of local post-box numbers and pretend that they are from this area and take work away from local communities. How can this be prevented?
h. I would like to thank my Councillors that have started this project and that they are seeing their results.
i. The issue of funding – let us find ways to make this project work and start the process to prepare funding for the next year. Let money not be an excuse to hamper development, this has been long outstanding.
j. Could we ask the contractor to do some upgrades at some of the offices in Epukiro? Such as paving in front of the Regional office building as part of their social responsibility.

Response (Benson Namupala): The intention was to do a full upgrade, unfortunately the project was halted due to various other priorities. Our Line Minister and our CEO Mr. Lutombi are pushing the revival of this project, not as full bitumen but as low volume. Budget constraints are the biggest issue, but Mr Lutombi intends to push funding while phased construction is ongoing. We hope to appoint a contractor in the next 2 – 3 months.

SME employment is a burning issue, if there are local SME's they should benefit from this project.

If the contractor comes, we can talk to them about their social responsibility.

Q2. Honourable Ignatius Kariseb:

I propose that the contractor consults with the Councillor's Office to confirm that SME's are from the area when hiring them.

Response (Benson Namupala): That is definitely something that should be considered.

Q3. Hiskia Shashishwa:

Is there a Feasibility Study report about this road available at the Councillor's Office? This road is situated in two constituencies. Why can't the road start at Epukiro instead of Du Plessis Plaas and why are only 8km constructed?

Response (Peet Bezuidenhout): I am not aware that a Feasibility Study was done, but a Design Report was done for the entire road, and it will be treated as such, but it is being implemented in phases. The start of the road at Du Plessis Plaas is due to the logistical practicality of the project, such as hauling material for construction (culverts, aggregate, etc), it is the closest.

Response (Benson Namupala): The Design Report is for the full bitumen upgrade done in 2016 and will be available at the Councillor's Office.

Q4. Spee Kashipua:

I am concerned about the short distance that will be upgraded. We have waited for such a long time. When will the project start?

Response (Peet Bezuidenhout): There is only N$26 million available now, our hands are tied and that is the reason we are only doing short distances now.

Response (Benson Namupala): 2 – 3 months from now. The tender needs to be advertised, evaluated, and approved/awarded and we need to obtain the ECC to commence with this project.

Q5. Claudia Kamandume:

The work for SME's – will it be advertised? If it is advertised, can anyone apply, will it be advertised nationally or locally? If I am originally from Epukiro, but I have a postal address in Windhoek am I still eligible to apply?

Response (Peet Bezuidenhout): This will always be a burning issue. On other projects, SME's from the same region have been employed, they went to the Governor's Office to register there as SME's and the contractor used this list to employ SME's. I would recommend that SME's register with the Councillor's Office and the contractor gets referred to the Councillor's Office when looking to employ SME's. Perhaps by getting a letter from the Councillor's Office to confirm that you are a local SME.

Response (Benson Namupala): The issue is that although we want the local community to benefit, others might feel that because they are Namibian citizens, they are also eligible to apply. The other issue is that if the contractor is told to use one certain SME, the moment they don't perform they will say that it is the SME who is not performing and not their fault.

Response (Ignatius Kariseb): That's why I say that we need to make use of the Office of the Regional Councillor, so that even if you have a P.O. Box number in a different town, the Councillor will know that you are from this area. We took a resolution 2 months ago as a Regional Council that the locals must benefit.

Q6. Station Commander Efraem Tjhumino:

My concern is that projects have been stopped in the past because people are employed without contracts and that these issues will end up at the police station when employees don't know what date their salaries area being paid or they don't get paid, etc.

A message to the community, we cannot be the cause of the delay of this project. For example, when workers are making misuse of equipment/plant for private purposes, finishing fuel, and causing construction delays by doing so.

Response (Peet Bezuidenhout): Contractors should abide by the labour law and therefore they should have contracts with their employees and pay them their salaries on time and as specified in the contract. If there are problems with that, we cannot handle those issues, it needs to get to referred to the labour department. Fuel theft is the biggest issue on a construction site, contractors struggle with this constantly, and it affects the construction progress.

Response (Benson Namupala): In 2 – 3 months when we have appointed a contractor, we (RA and Consultant) will comeback with the contractor to introduce the contractor to the Councillor and to discuss the issues and concerns.

Q7.

a. What is going to happen to our buildings, fences, and camps next to the road?
b. For how many years will this road construction take place?
c. At least 85% of unskilled labour component should come from both constituencies.

d. What is going to happen about the skilled people in this area?

Response (Peet Bezuidenhout): Specifications as they are, the road reserve is 60m wide - fences 30m from centreline, buildings 50m from centreline. If we go through settlements we make arrangements with the RA to reduce that if there are existing structures, we try to make provisions not to move structures.

Construction for the first 8km will take 5.5months (approximately 6 months for 10km of road construction). Construction of entire road would probably take 2.5 – 3 years.

Long term plans are to upgrade the road to Gam as well, but for now we focus on the Du Plessis Plaas – Epukiro road.

If skilled labour is available in the area, the contractor will employ local. Most of the time the plant come with operators, but other skilled labour available will be used. A list of names should be prepared by the Regional Council from which the contractor can draw, this list should indicate skilled / unskilled labour and type of skill.

Q8. Elvis Murenga

You said that often plant comes with operators and that this skilled labour will be taken from Windhoek, but we have lots of drivers in the community, at least 50% should come from here.

Q9. Alfons Ndalemapo

Low Volume Seal is a concern, is it really viable in the long term? Why are we rushing the road and not waiting for enough funds for a high volume road? We don't want the road to perish within 10 years. The road between Drimiopsis and Du Plessis Plaas is already damaged and not even 15 years old.

Response (Benson Namupala): The question was put to the CEO, if community wants a high volume road, it may take another 15 years, let's use the opportunity and what is available now and upgrade later.

Response (Peet Bezuidenhout): Don't confuse low volume standard with low quality. It is suitable for lower traffic volumes. Low volume seal means it is constructed to a lower standard with regards to layer works, width of road, etc. If there were a lot of trucks on this road, we wouldn't be able to do LVS.

Q10. Ruth Mbura

I appreciate the presentation and the attendance of everyone. We requested the road from Drimiposis to Epukiro in a letter to the President, His Excellency Pohamba and the Minister at the time Honourable Nghimtina in 2013 and the response was that there were no funds available. Today we are hearing about the low volume road, but at least we are getting the road.

Regarding the SME's let's work closer to the Regional Council Office and Councillor Pakarae.

Further I would like to thank the Epukiro community for being here today, it shows that you want the road to be constructed. My responsibility is to make sure that the implementation is taking place and the delivery is there.

Q10. Kavee Kauaa

Where does the road stop in Epukiro?

Response (Peet Bezuidenhout): Not certain yet, by the time we get to Epukiro it might change and might go through Epukiro, but it will depend on funds available at the time.

Prayer

End of meeting 12:55

(1)

ATTENDANCE REGISTER

DATE: 01 June 2021 VENUE: Epukiro Community Hall

PROJECT: The Detail Design, Tender Documentation, Contract Administration and Site Supervision for DR1635: Du Plessis Plaas to Epukiro in the Omaheke Region

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