




***ENVIRONMENTAL IMPACT ASSESSMENT
FOR THE DESIGN, SUPPLY, INSTALLATION,
CONSTRUCTION AND COMMISSIONING OF
A POTABLE NEW WATER TREATMENT
PLANT FOR TSUMEB, OSHIKOTO REGION***

2023

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<p>Project Name:</p>	<p><i>ENVIRONMENTAL IMPACT ASSESSMENT FOR THE DESIGN, SUPPLY, INSTALLATION, CONSTRUCTION AND COMMISSIONING OF A NEW POTABLE WATER TREATMENT PLANT FOR TSUMEB, OSHIKOTO REGION</i></p>
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EXECUTIVE SUMMARY

Green Earth Environmental Consultants were appointed by the Proponent, Tsumeb Municipality, to conduct an Environmental Impact Assessment to obtain an Environmental Clearance for the design, supply, installation, construction and commissioning of a new 400 m³/h potable water treatment plant (PWTP) for the town of Tsumeb, with specific emphasis on cryptosporidium contamination and hardness removal. Cryptosporidium contamination was measured at several of the raw water (borehole) sources and presents a serious health concern. Hardness removal is to be incorporated to alleviate scale precipitation problems in the water supply network.

The land within the immediate vicinity of the project site is predominantly characterized by municipal, residential, business, and institutional activities. In terms of the Regulations of the Environmental Management Act (No 7 of 2007) an Environmental Impact Assessment must be done to address the following 'Listed Activities':

WATER RESOURCE DEVELOPMENTS

8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

The key characteristics/environmental impacts of the proposed project are as follows:

Impact on environment	Nature of impact
Improvement of the potable water quality to the town's water users.	Positive for Tsumeb as it will improve the quality of life of the residents.
Creation of employment and transfer of skills.	Positive as employment will be created during construction and operation which also result in the transfer of skills which is important in the current economic climate.
Increase in the cost of potable water due to additional treatment processes.	Negative as residents are already struggling with the increase for services rendered by local authorities.
Improvement of the health and well-being of its residents.	Positive as especially babies, young children as well as people with low levels of natural immunity are getting sick from the contaminated potable water.
There will be an impact on traffic during construction.	The impact will be small and during construction only.

The creation of noise during construction.	On par with the noise levels associated with the neighbouring uses.
The creation of dust.	Dust impacts will be mitigated.
Possible impact on cultural/heritage aspects.	No items of archeologic value or graves were observed during the site visit which means the impact will be low. If any items or graves are found, the impact will be high and irreversible.
Impact on fauna and flora.	All vegetation and plants were already removed when the facility was constructed therefore limited additional vegetation, trees, plants or bushes will be removed.
There might be a possible visual impact.	The impact will be low as it is hidden by vegetation as well as against the backdrop of the existing Tupperware dam wall.
Impact on groundwater, surface water and soil.	The impact will be positive as the wastewater origination from the treatment of the water will be pumped back into the groundwater and in general improve the chemical qualities of the groundwater affected by mining activities in the area.
Impact on health and safety.	Low if mitigated during construction. Will improve once the plant is operational due to improved quality of potable water.

The environmental impacts during the operational phase of the proposed project:

IMPACTS DURING OPERATIONAL PHASE			
Aspect	Impact Type	Significance of impacts Unmitigated	Significance of impacts Mitigated
Ecology Impacts	-	M	L
Dust and Air Quality	-	M	L
Groundwater Contamination	-	M	L
Waste Generation	-	M	L
Failure of Reticulation Pipeline	-	M	L
Fires and Explosions	-	M	L
Safety and Security	-	M	L

IMPACT EVALUATION CRITERION (DEAT 2006):		
Criteria	Rating (Severity)	
Impact Type	+	Positive
	O	No Impact
	-	Negative
Significance of impacts	L	Low (Little or no impact)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

The negative impacts associated with the project are the impact on the price of potable water for the residents, vegetation, noise and dust during construction, the danger of residents and visitors being injured during construction, the transmission of diseases from people or to people involved in construction and the loss of land. However, mitigation measures will be provided that can control the extent, intensity, and frequency of these named impacts in order not to have substantial negative effects or results.

The type of activities that will be carried out on the site will not negatively affect the amenity of the locality and the activities do not adversely affect the environmental quality of the neighbouring erven or areas. None of the potential impacts identified are regarded as having a significant impact to the extent that the proposed project should not be allowed. However, the operational activities further on need to be controlled and monitored by the assigned subcontractors and the proponent.

The Environmental Impact Assessment which follows upon this paragraph was conducted in accordance with the guidelines and stipulations of the Environmental Management Act (No 7 of 2007) meaning that all possible impacts have been considered and the details are presented in the report. Based upon the conclusions and recommendations of the Environmental Impact Assessment Report and Environmental Management Plan following this paragraph, the Environmental Commissioner of the Ministry of Environment, Forestry and Tourism is herewith requested to:

1. Accept the Environmental Impact Assessment;
2. Approve the Environmental Management Plan;
3. Issue an Environmental Clearance for the design, supply, installation, construction and commissioning of a new water treatment plant for Tsumeb Municipality, Tsumeb, Oshikoto Region and for the following "listed activities":

WATER RESOURCE DEVELOPMENTS

8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any

process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

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LIST OF ABBREVIATIONS

CAN	Central Area of Namibia
EC	Environmental Clearance
ECO	Environment Control Officer
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
I&APs	Interested and Affected Parties
MEFT	Ministry of Environment, Forestry and Tourism
SQM	Square Meters

1. INTRODUCTION

The Proponent, Tsumeb Municipality, appointed Green Earth Environmental Consultants to conduct an Environmental Impact Assessment and develop an Environmental Management Plan to obtain an Environmental Clearance for the design, supply, installation, construction and commissioning of a new 400 m³/h potable water treatment plant (PWTP) for the town of Tsumeb, Oshikoto Region with specific emphasis on cryptosporidium contamination and hardness removal. Cryptosporidium contamination was measured at several of the raw water (borehole) sources and presents a serious health concern. Hardness removal is to be incorporated to alleviate scale precipitation problems in the water supply network.

The Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) stipulates that an Environmental Impact Assessment (EIA) report and management plan is required as the following 'Listed Activities' are involved:

WATER RESOURCE DEVELOPMENTS

8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

The Environmental Impact Assessment below contains information on the proposed project and the surrounding areas, the proposed activities, the applicable legislation to the study conducted, the methodology that was followed, the public consultation that was conducted, and the receiving environment's sensitivity and any potential ecological, environmental, and social impacts.

2. TERMS OF REFERENCE

To be able to implement the proposed project, an Environmental Impact Assessment and Environmental Clearance is required. For this environmental impact exercise, Green Earth Environmental Consultants followed the terms of reference as stipulated under the Environmental Management Act.

The aim of the environmental impact assessment was:

- To ascertain existing environmental conditions on the site to determine its environmental sensitivity.

- To inform I&APs and relevant authorities of the details of the proposed development and to provide them with an opportunity to raise issues and concerns.
- To assess the significance of issues and concerns raised.
- To compile a report detailing all identified issues and possible impacts, stipulating the way forward and identify specialist investigations required.
- To outline management guidelines in an Environmental Management Plan (EMP) to minimize and/or mitigate potentially negative impacts.
- To comply with Namibia's Environmental Management Act (2007) and its regulations (2012).

The tasks that were undertaken for the Environmental Impact Assessment included the evaluation of the following: climate, water (hydrology), vegetation, geology, soils, socio economic impact, cultural heritage, groundwater, sedimentation, erosion, biodiversity, sense of place, socio-economic environment, health, safety and traffic.

The public consultation process as per the guidelines of the Act has been followed. The methods that were used to assess the environmental issues and alternatives included the collection of data on the project site and surrounding area, info obtained from the proponent and the Ministry of Environment, Forestry and Tourism and identified and affected stakeholders. Consequences of impacts were determined in five categories: nature of impact, expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity.

All other permits, licenses or certificates that are further on required for the operation of the proposed project still needs to be applied for by the proponent.

3. NEED AND DESIRABILITY

Need

Since December 2022, the Town of Tsumeb has been confronted with microbiological contamination in its potable water, raising concerns about the health and well-being of its residents. It was determined through routine sampling that the quality of drinking water in Tsumeb is below the standards for human consumption. This conclusion was based on a microbiological quality assessment which confirmed the presence of microscopic germs - parasites called Cryptosporidium.

Cryptosporidium, or "Crypto" for short, can be found in water, food, soil or on surfaces or dirty hands that have been contaminated with the feces of humans or animals infected with the parasite. Crypto, is an apicomplexan genus of alveolates which are parasites that can cause a respiratory and gastrointestinal illness that primarily involves watery diarrhoea, sometimes with a persistent cough. Complications can include malnutrition, growth delays, and cognitive impairment. Malnutrition also appears to increase the risk of infection. Gastrointestinal symptoms and joint pain can persist for several years after the initial Cryptosporidium infection and should be regarded as a potential cause of unexplained gastrointestinal symptoms or joint pain in people who have had this infection. Cryptosporidiosis is also associated with more chronic symptoms and higher mortality rates than other causes of diarrhea in childhood.

The water extracted from the boreholes contains high levels of calcium and magnesium carbonate hardness which creates scale precipitation problems in the water supply network. Hardness removal is to be incorporated to alleviate scale precipitation problems in the water supply network.

In terms of its mandate to service the residents Tsumeb, the Municipality: “*Shall be responsible for pollution and take immediate remedial action should at any time there be an unforeseen occurrence of surface or ground water pollution in or outside the jurisdictional area that can be related to the municipal activities.*”

Desirability

Water supplied to the residents of Tsumeb is extracted from various boreholes and pumped into the Tupperware Dam for temporary storage whereafter it is treated and distributed to the residents through the municipal potable water reticulation system. The existing filtration and chemical treatment system is not sufficient in the eradication of microscopic germs, especially Cryptosporidium which means that the treated water supplied to residents may still be contaminated with the parasites.

The combination of efficient filtration and disinfection has a very high effectiveness in removing and killing Cryptosporidium when used with chlorine dioxide and by using an absolute less than or equal to 1 micron filter (NSF Standard 53 or 58 rated “cyst reduction / removal” filter). This level of filtration and disinfection cannot be achieved with the current water treatment system used by the Municipality.

The only inorganic parameter of major concern is total hardness, which needs to be reduced to below 300 mg/l. However, to prevent scaling of any downstream equipment in the distribution network, **the design requirement for this plant is to reduce total hardness to below 120 mg/l.**

A new Water Treatment Plant (WTP) with a 400 m³/h feed water capacity, that can treat the water to conform to the Namibian Water Quality Guidelines’ acceptable quality for all parameters, as well as the NamWater Group A specification for potable water will be installed. Special attention will be given to ensure the complete cryptosporidium contamination removal. The Final water quality must achieve 0 (nil) oocysts per 100 litre requirements as per the Water Quality Guidelines.

From the above there is a definite need that the situation is addressed by Tsumeb Municipality, and it is desirable to install a WTP that can insure the efficient filtration, disinfection, and reduction of hardness of the Town’s potable water for human consumption.

Determining what the impact of the operations would be are broken down into different categories and environmental aspects and dealt with in the Environmental Management Plan (EMP). As per the ISO 14001 definition: *an environmental aspect is an element of an organization’s activities, products and/or services that can interact with the environment to cause an environmental impact e.g., land degradation or land deterioration among others, that will cause harm to the environment.*

All concerns and potential impacts raised during the public participation process and consultative meetings were evaluated. Predictions were made with respect to their magnitude and an assessment of their significance was made according to the following criteria:

The Nature of the activity: The possible impacts that may occur are that water will be used in the construction and operational phases, wastewater will be produced that will be handled either by the Municipality or by the proponent, land will be used for the proposed activities, a sewage system will be constructed, and general construction activities will take place, namely the building of infrastructure.

The Probability of the impacts to occur: The probability of the above-named impacts to occur and have a negative or harmful impact on the environment and the community is small since the Environmental Management Plan will also guide these activities. Water will still be used, and wastewater produced, however guidelines will be set that will ensure the impact is minimum.

The Extent of area that the project will affect: The specific project will most likely only have a small impact on the proposed project site itself and not on the surrounding or neighbouring land except for noise, traffic, roads, electricity and dust and there may be a visual impact because of the size of the proposed development. Therefore, the extent that the project will have a negative impact on is not extensive.

The Duration of the project: The duration of the project is uncertain. Water will still be used, and waste produced on a continuous basis and the structures that were constructed will remain and may be visually unpleasing to surroundings.

The Intensity of the project: The intensity of the project is mostly limited to the site however for the above-named items/processes where the intensity of the project will be felt outside the borders of the project site.

According to the information that was present while conducting the Environmental Impact Assessment for the construction and operation of the project, no high-risk impacts were identified and therefore it is believed that the operations will be feasible in the short and long run. Most of the impacts identified were characterized as being of a low impact on the receiving and surrounding environment and with mitigation measures followed, the impacts will be of minimum significance or avoided.

4. PROJECT INFORMATION

4.1.SITE INFORMATION

The proposed new potable water treatment plant (PWTP) facility will be located on the site of the Tupperware Dam. See below locality map showing where the site is located:



Figure 1: The Project Site



Figure 2: Proposed plant and reservoir location at the Tupper Dam reservoir

The new PWTP will be installed adjacent to the existing Tupper Dam Reservoir on the southern outskirts of Tsumeb as per *Figure 1* above. This location was chosen as it is a central point to which water from all raw water sources is pumped before being fed into the town's potable water network. Therefore, treating water at this location immediately upstream of the Tupper Dam reservoir ensures that the entire town's water supply can be treated with one central plant.

4.2.POTABLE WATER TREATMENT PLANT (PWTP)

Aquarius Consult CC was appointed by Tsumeb Municipality to design and prepare bidding documents for a new 400 m³/h potable water treatment plant (PWTP) for the town of Tsumeb, with specific emphasis on cryptosporidium contamination and hardness removal.

The new PWTP will be provided next to the existing pump station and chlorination buildings at the Tupper Dam Reservoir. The Tupper Dam is the final reservoir that collects water from various boreholes and intermediate reservoirs, before discharging into the town's reticulation network.

4.3.GENERAL DESIGN CRITERIA

For the design and construction of the PWTP, the following general design criteria (Aquarius Consult CC) will be applied:

- A new WTP with 400 m³/h feed water capacity shall be provided.
- Final, treated water will conform to the Namibian Water Quality Guidelines acceptable quality for all parameters, as well as the NamWater Group A specification for potable water.
- Special attention must be given to complete cryptosporidium contamination removal. Final water quality must achieve 0 (Nil) oocysts per 100 litre requirements as per the Water Quality Guidelines.
- In addition, the treatment works shall make provision for the reduction of calcium and magnesium carbonate hardness to alleviate scale precipitation problems in the water supply network. The design requirement for this plant is to reduce total hardness to below 120 mg/l.

4.4.RAW WATER QUALITY PARAMETERS

Water from various boreholes is currently pumped to the Tupper Dam before distribution to the town's reticulation network. The water quality will therefore vary slightly depending on the blend of boreholes in operation at any given time. Unfortunately, accurate total volumes or proportions of each borehole feeding the Tupper Dam were not available at the time of designing the PWTP and preparation of the bidding document.

However, the water quality parameter concentrations do not differ more than 15% between individual boreholes and therefore a constant feed quality can be expected.

Table 1 below shows a typical average feed water quality to be expected and to be used for design purposes. The *Table* also shows the final water NamWater Group A qualities that need to be achieved by the PWTP. This will by default also ensure that the more lenient Namibian Water Quality Guidelines Acceptable Standard is also adhered to (attached in Appendix for reference).

Table 1: Raw Water Quality

Parameter	Unit	Raw Water	NamWater Group A
Flow	m ³ /h	300	
pH		7.5	6-9
Electrical Conductivity	mS/m	84.8	150
Turbidity		< 1	< 1
Total dissolved solids	mg/l	825	
P-Alkalinity as CaCO ₃	mg/l	<10	
Total Alkalinity as CaCO ₃	mg/l	455	
Total Hardness as CaCO ₃	mg/l	505	300*
Ca-Hardness as CaCO ₃	mg/l	262	375
Mg-Hardness as CaCO ₃	mg/l	243	290
Chloride as Cl ⁻	mg/l	10	250
Fluoride as F ⁻	mg/l	0.1	1.5
Sulphate as SO ₄ ²⁻	mg/l	17	200
Nitrate as N	mg/l	2	10
Sodium as Na	mg/l	5.8	100
Potassium as K	mg/l	0.9	200
Magnesium as Mg	mg/l	59	70
Calcium as Ca	mg/l	105	150
Manganese as Mn	mg/l	0.01	0.05
Iron as Fe	mg/l	0.05	0.1

The requirement for this plant will be 120 mg/l or less total hardness in the final water.

The only inorganic parameter of major concern is therefore total hardness, which needs to be reduced to below 300 mg/l. To prevent scaling of any downstream equipment in the distribution network, the design requirement for this plant is to reduce total hardness to below 120 mg/l.

As cryptosporidium oocyst contamination was detected at various sources in the network feeding the Tupper Dam, one critical requirement of this plant is the complete removal of cryptosporidium contamination from the water.

4.5.PWTP DESIGN CAPACITY & TECHNOLOGY OF CHOICE

The information below was obtained from Aquarius Consult CC:

4.5.1.CAPACITY REQUIREMENTS

According to the Client's (Tsumeb Municipality) requirements, the PWTP is to be designed to be able to handle peak inflows of up to 400 m³/h. Currently, the measured peak inflow rate into the Tupper Dam is approximately 320 – 350 m³/h as per measurements taken by the Client. A further two boreholes are envisaged to be installed in the near future and it was therefore decided to allow for a design peak flow rate of 400 m³/h. It should be noted that these peak flows are not pumped to the Tupper Dam continuously, they are only experienced for a few hours per day when most or all of the active boreholes are abstracting at any given time.

Table 2 below shows the monthly abstraction volumes of all currently operational boreholes, as obtained from the Client's log sheets over 8 months. This data was then used to determine how much flow would be obtained from all boreholes when averaged over 24 hours instead of pumped with peak flows. Some flowmeters are unfortunately faulty (highlighted in red font), but representative typical monthly abstraction volumes from each borehole could be obtained. Table 2 shows that, typically, approximately 242 m³/h averaged over 24 hours is currently abstracted from the boreholes into the Tupper Dam. Therefore, the abstraction data from the boreholes definitively illustrates that average flow rates of approximately 240 m³/h can be expected, even if peak flow rates of 350 m³/h are observed currently.

It was therefore decided to base the plant treatment capacity on an average 300 m³/h over 24 hours, with maximum peak inflows of 400 m³/h to allow for the additional inflow from new boreholes. By providing adequate hydraulic buffer capacity at the inlet to the new PWTP, the remaining plant can then be sized for average inflows (300 m³/h) instead of peak inflows (400 m³/h) which drastically reduces capital and operating costs. In addition, this hydraulic buffering upstream of the treatment plant allows constant feed to the plant which is preferred to stop/start scenarios if no flow balancing were to be done. Treatment processes require some time to reach steady state and as such frequent stops and starts to the plant should be avoided.

Table 2: Borehole abstraction volumes (m3)

Borehole	Feb-23	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Total	Monthly
Icon 6	625 319	713 987	749 973	795 289	816 557	852 683	876 919	902 246	276 927	30 770
Icon 3	644 646	655 616	666 144	668 822	668 822	668 822	668 822	668 822	24 176	4 835
Nomtsoub 1	680 230	755 107	790 691	825 608	844 895	850 748	850 748	850 748	170 518	18 946
Nomtsoub 2	67 910	141 019	163 848	198 447	219 377	251 958	282 060	311 009	243 099	27 011
Wolf 1	783 377	845 128	868 573	893 122	906 929	927 133	947 511	966 503	183 126	20 347
Wolf 2	424 627	524 571	564 483	607 311	631 470	665 351	698 939	729 666	305 039	33 893
FP 15/3	274 287	319 705	345 476	378 605	389 108	400 077	404 434	404 434	130 147	16 268
FP 7/1	583 428	668 472	684 309	709 253	722 079	742 820	792 426	780 429	197 001	21 889
									Total Monthly (m³)	173 960
									Total Daily (m³)	5 799
									Total Hourly (m³)	242

4.5.2. ALTERNATIVES INVESTIGATED & RECOMMENDED

Various treatment technologies (alternatives) are available for the removal of cryptosporidium contamination and hardness reduction for potable water treatment plants. **The no-go option is not an alternative as the water quality achieved through the current treatment processes deliver drinking water which is below the standards for human consumption.**

The different options were considered for this project to determine the optimum solution. The following criteria were considered:

- Capital cost requirements;
- Operational cost requirements;
- Minimal waste stream volumes;
- Ease of operation.

Treatment technologies that were considered with advantages and disadvantages on a qualitative basis are as follows:

- 1) Process Option 1: Sand filtration and UV disinfection for cryptosporidium removal, followed by ion exchange (IX) softening for hardness reduction, and chlorine gas disinfection for downstream residual disinfection.
- 2) Process Option 2: High-rate lime softening for hardness reduction, followed by sand filtration and UV disinfection for cryptosporidium removal, and chlorine gas disinfection for downstream residual disinfection.
- 3) Process Option 3: Reverse osmosis (RO) treatment for both cryptosporidium and hardness removal followed by chlorine gas disinfection for downstream residual disinfection.
- 4) Process Option 4: Nanofiltration (NF) treatment for both cryptosporidium and hardness removal followed by chlorine gas disinfection for downstream residual disinfection.
- 5) Process Option 5: Nanofiltration (NF) treatment for both cryptosporidium and hardness removal followed by RO treatment for brine reduction, and chlorine gas disinfection for downstream residual disinfection.

Comparative designs were performed for each of the above 5 options. The findings of each design are summarized below (chlorine disinfection is required for each option and is not discussed further in the comparative analysis).

Option 1: Sand filtration, ion exchange softening

This option is typically the easiest process solution for softening and cryptosporidium removal. However, on a large plant as this, there will be significant volumes of backwash wastewater generated from sandfilter backwash streams and softener regeneration. High salinity wastewater will be generated that will need to be discharged to the sewage treatment plant or treated elsewhere and volumes are estimated to be 225 m³/day. Salt requirement for softener regeneration is approximately 8 tonnes dry salt per day, which needs to be made up into a brine solution for regeneration. Capital cost estimate depending on level of automation = N\$ 30 - 35 million (excluding VAT).

Option 2: Sand filtration, lime softening

Approximately 50 kg/h of lime powder dosing would be required for this plant, which would mean that an operator has to make up 1.2 tonnes of dry lime a day. For a manual process this would become incredibly tedious, while an automatic process would be expensive for the available budget when considered with the sand filtration requirement as well. As for option 1 discussed above, sand filters would need to be backwashed regularly and approximately 700 – 1000 m³/d of wastewater would need to be discharged to the sewage treatment plant or handled elsewhere. Capital cost estimate = N\$ 40 – 50 million (excluding VAT) depending on level of automation.

Option 3: Reverse osmosis

Reverse osmosis is a very effective way of removing both pathogens such as cryptosporidium and softening the water in one process, as the membranes have very fine pore sizes. However, the process requires a lot of energy (electricity) and approximately 5-10% brine waste is produced, corresponding to 360 - 720 m³/day of high salinity brine waste that would need to be handled. Capital cost estimate = N\$ 20 – 25 million (excluding VAT) depending on level of automation.

Option 4: Nanofiltration

Nanofiltration is similar to reverse osmosis discussed above, except that the pore size of membranes is slightly larger, thereby allowing more calcium and magnesium hardness to pass through and requiring less energy (electricity) than reverse osmosis. Approximately 90% recovery can be achieved, which would mean that 720 m³/day of high salinity waste brine needs to be handled. Capital cost estimate = N\$ 20 – 25 million (excluding VAT) depending on level of automation.

Option 5: Nanofiltration and reverse osmosis

This option is a combination of options 3 and 4 above. The water is first treated using nanofiltration, which requires less energy than reverse osmosis. Only the resulting 10% brine stream is then further treated using reverse osmosis, so that only approximately 180 m³/day of final brine effluent is produced. This combination of processes produces the optimal balance between low power consumption while producing as little as possible final brine. Capital cost estimate = N\$ 22 – 27 million (excluding VAT) depending on level of automation.

The alternative treatment technologies are compared in the *Table* below:

Table 3: High level process technology comparisons summary

Operational Parameter	Option 1 SF + IX	Option 2 SF + Lime Soft.	Option 3 RO	Option 4 NF	Option 5 NF + RO
Ease of operation	Low	Medium	Medium	Medium	Medium
Power requirement	Low	High	High	Medium	Med-High
Operation and maintenance cost	Low-medium	High	High	Medium	High
Waste/brine stream volume (m ³ /day)	250	700 – 1 000	360 - 720	720	180
Capital cost (million N\$)	30 - 40	40 - 50	20 - 25	20 - 25	22 - 27

A previous bidding process using the Option 5 process technology revealed that operational costs would be excessive, in the order of N\$ 10 million per annum, mostly attributable to high power consumption (225 kW) and chemicals consumption. **From the investigation by Aquarius Consult CC as well as consultations with the Town Council, it was decided to pursue Option 1, which may have a higher capital cost and produce more waste streams, but will be cheaper to operate.**

This is the option that uses the lowest amount of electricity and chemicals, with estimated capital costs of N\$ 30 – 35 million (excluding VAT). Final pricing will depend on contractor's choice of equipment as well as their availability and risk appetite (i.e. mark-up) for the project.

4.5.3. PROCESS DESCRIPTION

Borehole water from various sources is currently pumped into the existing 15 000 m³ Tupper Dam reservoir in a 315 mm HDPE pipe. The scope of work for this contract will start with installation of a tee-off and manual isolation valves from this rising main pipe, so that water can either be directed to the new WTP or can still be pumped to the Tupper Dam reservoir as is currently done.

From the tee-off, water will be directed to a new 2 100 m³ zincalume raw water reservoir (T-100) which will be used for hydraulic and quality balancing of the raw water. Depending on the number of boreholes in operation at any given time, the peak flow rate entering the reservoir can be up to 400 m³/h and the quality may also vary slightly. The WTP downstream of this raw water reservoir is to be sized for 300 m³/h only. Instantaneous demand peaks on the supply to the town will be balanced by the 15 000 m³ Tupper Dam reservoir.

After blending and equalisation in the raw water reservoir water must be abstracted by two off pumps (P102, Q= 300 m³/h, H= 30 mWH) and pumped through the sand filters and through the softener (ion exchange vessels). After the softeners, water is additionally treated with UV to ensure complete destruction of any cryptosporidium or other cysts.

Water from the raw water tank is pumped through 8 off pressure sand filters (FV01) in parallel. 8 off pressure sand filters, 2 200 mm diameter and sized for a flow of 37.5 m³/h will be provided. The filters will be packed with 1 000 mm silica sand with an effective size of 0.8 mm and uniformity coefficient less than 1.4. The plant automation will be such that the filters will be automatically backwashed on a timer, or when the pressure drop (detected by pressure transducers) has reached a certain high value. Backwash water will be directed to the waste discharge channel. All electrically actuated valves will be provided to achieve this.

Each filter must be backwashed at least every second day or when the filter become blocked, considered to be when the pressure difference over the filter is 0.3 bar or more as measured between the inlet and outlet pressure transducers. The backwashing procedure will commence with a combined air and water scour for 5 minutes followed by a water only rinse for a further 5 minutes. Backwash water is to be discharged to a manhole not further than 200 m away from the plant. Pipework and connection onto the manhole are to be included under this contract.

Backwashing of the filters is carried out automatically. Because the filters share a common in- and outlet header, they clog at the same time and all filters have to be backwashed when a backwash is required. The filters are individually backwashed, one after the other.

The filters are backwashed utilizing water and air (combined). The backwash cycle is performed automatically in two stages:

- Simultaneous air (at 55 m/h) and water (at 33.8 m/h) wash (scouring)
- Water (only) rinse (at 33.8 m/h)

The filter system is provided with a side channel blower to provide compressed air, the air scour cycle during initial backwash operation of the sand filter.

After the sand filtration to remove fine particles, the raw water needs to be softened. For this, a softener plant to treat 250 m³/h of filtered water has been provided, while 50 m³/h of filtered water will bypass the softeners and is blended back afterwards (to reduce softening plant capacity requirements while ensuring that the final Ca and Mg hardness < 120 mg/l). The plant is of the 2 duty 1 standby type, i.e. three softener vessels are provided, each for a duty of 6 hours at 125 m³/h. The softeners are filled with Rohm & Haas Amberlite IR 120 Na, a strong acidic cationic exchange resin chosen specifically for the required application.

Thus, while two vessels are on-line, one is regenerated.

The plant as designed consists of 3 off mild steel (rubber coated inside) vessels, each 2 200 mm diameter and 2 300 mm high (FV01 A/B/C) that will each be filled with 7 700 L of strong acidic cation (SAC) resin, such as Amberlite HPR 1100 Na or equivalent.

For regeneration, a complete brine solution make-up station is provided. This consists of a 100 m³ concrete sump fitted with a mechanical mixer (MM01) and an ultrasonic level sensor to signal to the PLC that high/low levels in the tank have been reached. Two off (duty/standby) brine transfer pumps (PC02 A&B) are supplied for regenerating the softeners as follows:

In-line electrically actuated valves are provided to switch and control the regeneration flows.

A manual brine make-up as station will be provided. Brine is made up as a 10% solution. The operator will add the required amount of salt to the brine sump when empty, fill up the sump with water and switch the mixer on for ca 30 min to dissolve the salt. A forklift will be provided as part of this contract to transfer bulk (1 ton) salt bags from the storage area inside the building to the brine sump chute.

The entire 300 m³/h blended stream is then disinfected using ultraviolet (UV) point disinfection in combination with hydrogen peroxide dosing, before discharge into the Tupper Dam reservoir. This combination achieves an advanced oxidation step to ensure that any remaining cryptosporidium cysts and other microbiological contaminants cysts are eliminated.

Chlorine will be dosed at the overflow from the flush tank to the Tupper Dam reservoir. The existing chlorination building is to be used for this purpose, with all necessary modifications required at this building included under this contract. The current building consists of a single room where bottles and dosing equipment are housed. This is to be split into two rooms for separation of bottles and remaining equipment and structural alterations for sealing of the bottle room and installing doors etc. are included under this scope.

The chlorine dosing rate at the dosing point will vary proportionally to the inflow to the reservoir. The dosing set points will be determined from the measured reservoir inlet flow rate and outlet chlorine residual value. The dosing set point will then adjust to maintain a free chlorine level of 0.8 ppm.

The system shall be designed to disinfect water at the plant capacity of 300 m³/h. The design shall also make specific provision for shock dosing ability.

Approximately 140 m³/d of brine and 85 m³/d of filter backwash water will be produced by the plant, which needs to be discharged to the sewage treatment plant, or otherwise handled appropriately. The backwash water will be relatively clean as it is pure raw water that has just been filtered for removal of fine particles. It is therefore assumed that the filter backwash water can be spilled below ground to recharge the groundwater supply while only the softener brine (140 m³/d) needs to be handled further.

Various options for the brine/ backwash disposal were investigated. Options for brine handling include discharge to the sewage treatment plant, groundwater recharge or evaporation ponds.

- Discharge to the sewage treatment plant: This is the easiest option since an existing sewage treatment manhole is relatively close to the envisaged PWTP site and brine can easily be discharged into the sewage system. This stream will contain high concentrations of sodium (5 500 mg/l), magnesium (2 650 mg/l), calcium (5 300 mg/l) and chlorides (25 000 mg/l) with a total suspended solids concentration of 40 000 mg/l and conductivity of 56 500 microS/cm.
- The establishment of evaporation ponds: To fully evaporate the entire brine stream would require an area of approximately 31 200 m² (or 177 m x 177 m). This pond has to be lined with a plastic liner. Besides the massive area required for evaporation, the costs to construct such a pond are not feasible.
- Groundwater recharge: Another option would be to discharge the brine stream into a new borehole adjacent to the envisaged new potable water treatment plant. This would result in the water and minerals into the soil and groundwater in the area and forming natural deposits in the surrounding soil and groundwater. This option is costly and will require further geohydrological studies to ensure that it will not impact negatively on the groundwater of the area.

The discharge to the sewage treatment plant was chosen as the easiest and cheapest solution. Should additional funding be made available, then the ponds or groundwater recharge option could be considered and investigated.

The plant to be installed will be fully automated with limited human interference required. The plant is designed to deliver 250 m³/h of softened water using filtered raw water with a quality as described above, plus 50 m³/h of bypass water. The plant operates for approximately 6 hours on one vessel to produce 750 m³ of softened water, after which it automatically switches over to the standby vessel and regenerates the first vessel. Switching is controlled via **Programmable Logic Controller (PLC)** once the totalizing flowmeter has registered 750 m³ of soft water delivered to the Tupper Dam.

After switching over to the standby vessel, the first vessel is regenerated in co-flow mode while the standby vessel then continues to produce softened water. The full regeneration cycle will be done automatically via the PLC and takes approximately 2 hours.

5. BULK SERVICES AND INFRASTRUCTURE

The erf is fully connected to the existing municipal infrastructure.

5.1.ACCESS REQUIREMENTS

The site will take access from the existing road north-east of the project site namely Raasblaar Street.

5.2.WATER SUPPLY

The site will obtain water from the existing water reticulation network of Tsumeb Municipality.

5.3.ELECTRICITY

Electricity to the site will be obtained from the electricity network of Tsumeb Municipality.

5.4.SEWAGE DISPOSAL

Only normal household sewer will be generated on site. The structures on site will link up with the existing sewer network of Tsumeb and be processed by the water treatment plant.

5.5.SOLID WASTE

Building waste generated during site preparation and construction must be removed by the contractor and disposed of at an approved building rubble site. Other waste generated during the normal operations of the site will be sorted and stored on site to be collected under the normal waste collection and management of Tsumeb Municipality. The proponent must ensure that the subcontractors comply with the applicable Namibian Legislation, Policies and Practices.

5.6.FIRE PROTECTION

The Proponent will put in the necessary fire protection infrastructure / extinguishers as per requirements. It is advised that a specialist Fire Protection Specialist is contracted to introduce a proper fire protection plan with the required infrastructure and to oversee the annual auditing and maintenance of the infrastructure.

5.7.STORMWATER

The natural flow of storm water and drainage must be minimally disturbed, and the natural flow accommodated where possible. The architect and project engineer must design and construct the structures to accommodate surface water/stormwater and ensure that it does not endanger neighbouring erven. It is also advised that the 1:50 year flood risk area is identified, and that no infrastructure development is done in the flood risk area.

6. APPROACH TO THE STUDY

The assessment included the following activities:

a) Desktop sensitivity assessment

Literature, legislation, and guidance documents related to the natural environment and land use activities available on the site and area in general were reviewed to determine potential environmental issues and concerns.

b) Site assessment (site visit)

The proposed project site and the immediate neighbourhood and surrounding area were assessed through several site visits to investigate the environmental parameters on site to enable further understanding of the potential impacts on site.

c) Public participation

The public was invited to give input, comments and opinions regarding the proposed project. Notices were placed in the Namibian and New Era (see Appendix) on two consecutive weeks (29 May and 6 June 2023) inviting public participation and comments on the proposed project. The closing date for any questions, comments, inputs or information was 9 June 2023. No objections and / or comments were received.

d) Scoping

Based on the desk top study, site visit and public participation, the environmental impacts were determined in five categories: nature of project, expected duration of impact, geographical extent of the event, probability of occurring and the expected intensity. The findings of the scoping have been incorporated in the environmental impact assessment report below.

e) Environmental Management Plan (EMP)

To minimize the impact on the environment, mitigation measures have been identified to be implemented during planning, construction, and implementation. These measures have been included in the Environmental Management Plan to guide the planning, construction and operation of the development which can also be used by the relevant authorities to ensure that the project is planned, developed, and operated with the minimum impact on the environment.

7. ASSUMPTIONS AND LIMITATIONS

It is assumed that the information provided by the proponent (Tsumeb Municipality) and Aquarius Consult CC is accurate. The potable water treatment plant (PWTP) must be located as close as possible to the current water storage (Tupperware dam) and distribution facilities to ensure efficiency and save on installation, operation and management costs. Therefore, no alternative erven / site for the proposed project were examined. The site was visited several times and any happenings after this are not mentioned in this report. (The assessment was based on the prevailing environmental conditions and not on future happenings on the site.) However, it is assumed that there will be no significant changes to the proposed project, and the environment will not adversely be affected between the compilation of the assessment and the implementation of the proposed activities.

8. LEGAL AND POLICY REQUIREMENTS

To protect the environment and achieve sustainable development, all projects, plans, programs and policies deemed to have adverse impacts on the environment require an EIA according to Namibian legislation. The administrative, legal and policy requirements to be considered during the Environmental Assessment are the following:

- The Namibian Constitution
- The Environmental Management Act (No. 7 of 2007)
- The Tsumeb Town Planning Scheme
- Other Laws, Acts, Regulations and Policies

THE NAMIBIAN CONSTITUTION

Article 95 of Namibia's constitution provides that:

“The State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:

Management of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.” This article recommends that a relatively high level of environmental protection is called for in respect of pollution control and waste management.

Article 144 of the Namibian Constitution deals with environmental law and it states:

“Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia”. This article incorporates international law, if it conforms to the Constitution, automatically as “law of the land”. These include international agreements, conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements (Ruppel & Ruppel-Schlichting, 2013). It is therefore important that the international agreements and conventions are considered (see section 4.9).

In considering these environmental rights, Tsumeb Municipality (the Proponent) should consider the following in devising an action plan in response to these articles:

- Implement a “zero-harm” policy at that would guide decisions.
- Ensure that no management practice or decision result in the degradation of future natural resources.
- Take a decision on how this part of the Constitution will be implemented as part of the Proponent’s Environmental Control System (ECS).

ENVIRONMENTAL MANAGEMENT ACT (NO. 7 OF 2007)

The Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 6 February 2012) of the Environmental Management Act (No. 7 of 2007) that came into effect in 2012 requires/recommends that an Environmental Impact Assessment and an Environmental Management Plan (EMP) be conducted for the following listed activities to obtain an Environmental Clearance Certificate:

WATER RESOURCE DEVELOPMENTS

8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

Cumulative impacts associated with the development must be included as well as public consultation. The Act further requires all major industries and mines to prepare waste management plans and present these to the local authorities for approval.

The Act, Regulations, Procedures and Guidelines have integrated the following sustainability principles. These need to be given due consideration, particularly to achieve proper waste management and pollution control:

Cradle to Grave Responsibility

This principle provides that those who handle or manufacture potentially harmful products must be liable for their safe production, use and disposal and that those who initiate potentially polluting activities must be liable for their commissioning, operation and decommissioning.

Precautionary Principle

It provides that if there is any doubt about the effects of a potentially polluting activity, a cautious approach must be adopted.

The Polluter Pays Principle

A person who generates waste or causes pollution must, in theory, pay the full costs of its treatment or of the harm, which it causes to the environment.

Public Participation and Access to Information

In the context of environmental management, citizens must have access to information and the right to participate in decisions making.

CONCLUSION AND IMPACT

The site for the placement of the potable water treatment plant has already been used for the handling, storage and treatment of water. The areas required for the placement of the treatment plant and associated infrastructure is partly cleared of vegetation. Vegetation must be cleared for the placement to the raw water sinalsame reservoirs. No protective species of trees or grasses were observed on the area to be cleared for the placement of the infrastructure. The proposed activity will thus fit in with the surrounding activities and not have a negative impact on the prevailing environment. It will be ensured that all protected trees and plant species will be retained where possible.

THE TSUMEB TOWN PLANNING SCHEME

The Tsumeb Town Planning Amendment Scheme (Gazetted per Government Notice No. 187 in Government Gazette No. 6680 – 18 August 2018) applies to the area as indicated on the scheme maps and corresponds with the Townlands Diagram for Tsumeb Town and Townlands. The Project Site falls within the area of the Scheme.

The general purpose of this Scheme is the coordinated and harmonious development of the area of Tsumeb (including, where necessary, the reconstruction and redevelopment of any part which has already been subdivided whether there are buildings on it or not) in such a way as will most effectively tend to promote health, safety, order, amenity, convenience and general welfare as well as efficiency and economy in the process of development and improvement of communications, and where it is expedient in order to promote proper planning or development, may provide for the suspending the operation of any provision of law or any bylaw or

regulation made under such law, in so far as such provision is similar to or inconsistent with any of the provisions so the Scheme.

According to the Town Planning Scheme, the Remainder of Erf 1089, Tsumeb is zoned 'public open space'. 'Public open space' zoned land is used or reserved in this Scheme for use by the public as an open space, park, garden, playground, recreation ground or square.

The Portion used for the Tupperware Dam and the water treatment plant only occupies a small portion of the Erf and is fenced in with access control to prevent unauthorised entry. This portion will be reserved for 'local authority use' in the future to bring the use in line with the Town Planning Scheme stipulations.

CONCLUSION AND IMPACT

The Proponent will subdivide the Remainder of Erf 1089 to create a separate portion for the Tupperware Dam and water treatment plant and reserve it for local authority use to bring the use in line with the stipulations of the Town Planning Scheme.

OTHER LAWS, ACTS, REGULATIONS AND POLICIES

The laws, acts, regulations, and policies listed below have also been considered during the Environmental Assessment.

Table 4: Laws, Acts, Regulations and Policies

Laws, Acts, Regulations & Policies consulted:		
Electricity Act (No. 4 of 2007)	In accordance with the Electricity Act (No. 4 of 2007) which provides for the establishment of the Electricity Control Board and provide for its powers and functions; to provide for the requirements and conditions for obtaining licenses for the provision of electricity; to provide for the powers and obligations of licenses; and to provide for incidental matters: the necessary permits and licenses will be obtained.	The Proponent must abide to the Electricity Act.
Pollution Control and Waste Management Bill (guideline only)	The Pollution Control and Waste Management Bill is currently in preparation and is therefore included as a guideline only. Of reference to the mining, Parts 2, 7 and 8 apply. Part 2 provides that no person shall discharge or cause to be discharged, any pollutant to the air from a process	The Proponent must adhere to the Pollution Control and Waste Management Bill.

	<p>except under and in accordance with the provisions of an air pollution license issued under section 23. Part 2 also further provides for procedures to be followed in license application, fees to be paid and required terms of conditions for air pollution licenses. Part 7 states that any person who sells, stores, transports or uses any hazardous substances or products containing hazardous substances shall notify the competent authority, in accordance with sub-section (2), of the presence and quantity of those substances. The competent authority for the purposes of section 74 shall maintain a register of substances notified in accordance with that section and the register shall be maintained in accordance with the provisions. Part 8 provides for emergency preparedness by the person handling hazardous substances, through emergency response plans.</p>	
<p>Water Resources Management Act</p>	<p>The Water Resources Management Act (No. 11 of 2013) stipulates conditions that ensure effluent that is produced to be of a certain standard. There should also be controls on the disposal of sewage, the purification of effluent, measures should be taken to ensure the prevention of surface and groundwater pollution and water resources should be used in a sustainable manner.</p>	<p>The Act must be consulted. Fresh water abstraction and waste-water discharge permits should be obtained when required.</p>
<p>Solid and Hazardous Waste Management Regulations: Local Authorities 1992</p>	<p>Provides for management and handling of industrial, business and domestic waste.</p>	<p>The Proponent must abide to the solid waste management provisions.</p>
<p>Hazardous Substances</p>	<p>The Ordinance applies to the manufacture, sale, use, disposal</p>	<p>The Proponent must abide to the Ordinance's provisions.</p>

<p>Ordinance (No. 14 of 1974)</p>	<p>and dumping of hazardous substances, as well as their import and export and is administered by the Minister of Health and Social Welfare. Its primary purpose is to prevent hazardous substances from causing injury, ill-health or the death of human beings.</p>	
<p>Atmospheric Pollution Prevention Ordinance of Namibia (No. 11 of 1976)</p>	<p>Part 2 of the Ordinance governs the control of noxious or offensive gases. The Ordinance prohibits anyone from carrying on a scheduled process without a registration certificate in a controlled area. The registration certificate must be issued if it can be demonstrated that the best practical means are being adopted for preventing or reducing the escape into the atmosphere of noxious or offensive gases produced by the scheduled process.</p>	<p>The proponent should adhere to the stipulations of the Atmospheric Pollution Prevention Ordinance.</p>
<p>Nature Conservation Ordinance</p>	<p>The Nature Conservation Ordinance (No. 4 of 1975) covers game parks and nature reserves, the hunting and protection of wild animals, problem animals, fish and indigenous plant species. The Ministry of Environment, Forestry and Tourism (MEFT) administer it and provides for the establishment of the Nature Conservation Board.</p>	<p>The proposed project implementation is not located in a demarcated conservation area, national park or unique environments.</p>
<p>Forestry Act</p>	<p>The Forestry Act (No. 12 of 2001) specifies that there be a general protection of the receiving and surrounding environment. The protection of natural vegetation is of great importance, the Forestry Act especially stipulates that no living tree, bush, shrub or indigenous plants within 100m from any river, stream or watercourse, may be removed without the necessary license.</p>	<p>No removal of protected tree species or removal of mature trees should happen. The Ministry of Environment, Forestry and Tourism should be consulted when required.</p>
<p>EU Timber Regulation: FSC (2013)</p>	<p>Forest Stewardship Council (FSC) came into effect in March 2013, with the aim of preventing sales of illegal timber and timber products in the EU market. Now, any actor who places timber or timber</p>	<p>The Proponent is advised to adhere to the regulation.</p>

	products on the market for the first time must ensure that the timber used has been legally harvested and, where applicable, exported legally from the country of harvest.	
Labour Act	The Labour Act (No. 11 of 2007) contains regulations relating to the Health, Safety and Welfare of employees at work. These regulations are prescribed for among others safety relating to hazardous substances, exposure limits and physical hazards. Regulations relating to the Health and Safety of Employees at Work are promulgated in terms of the Labour Act 6 of 1992 (GN156, GG1617 of 1 August 1997).	The proponent and contractor should adhere to the Labour Act.
Communal Land Rights	Communal land is land that belongs to the State and is held in trust for the benefit of the traditional communities living in those areas. Communal land cannot be bought or sold, but one can be given a customary land right or right of leasehold to a part of communal land in accordance with the provisions of the Communal Land Reform Act (No. 5 of 2002) and Communal Land Reform Amendment Act (No. 13 of 2013) . The Communal Land Reform Act provide for the allocation of rights in respect of communal land to establish Communal Land Boards to provide for the powers of Chiefs and Traditional Authorities and boards in relation to communal land and to make provision for incidental matters. Consent and access to land for the proposed project should be requested from the relevant traditional authority through the Regional Council and Regional Communal Land Boards.	Consent should be obtained from Traditional Authorities, Communal Boards, Chiefs, Kings, Queens etc. if required.
Traditional Authorities Act (No. 17 of 1995)	The Traditional Authorities Act (No. 17 of 1995) provide for the establishment of traditional authorities, the designation and recognition of traditional leaders;	Traditional Authorities should be consulted when required.

	to define their functions, duties and powers; and to provide for matters incidental thereto.	
Public and Environmental Health Act	The Public and Environmental Health Act (No. 1 of 2015) provides with respect to matters of public health in Namibia. The objects of this Act are to: (a) promote public health and wellbeing; (b) prevent injuries, diseases and disabilities; (c) protect individuals and communities from public health risks; (d) encourage community participation in order to create a healthy environment; and (e) provide for early detection of diseases and public health risks.	The proponent and contractor should adhere to the Public and Environmental Health Act.
Coronavirus (Covid-19) Pandemic	The current global Coronavirus (Covid-19) pandemic and the associated State of Emergency and health restrictions globally may result in some delays and logistic disruptions. The pandemic might have an impact on obtaining equipment, specialist workforce mobilisation and implementation of the project. The health restrictions may have an impact on campsite set-up, traveling of personal/workers and building of the infrastructure. The proponent, contractor and subcontractors should adhere to all the international, regional and local Covid-19 health restrictions and protocols.	The proponent, contractor and workforce should adhere to the restrictions and regulations.
National Heritage Act (No. 27 of 2004)	All protected heritage resources discovered need to be reported immediately to the National Heritage Council (NHC) and require a permit from the NHC before it may be relocated. This should be applied from the NHC.	The National Heritage Council should be consulted when required.
National Monuments Act of Namibia (No. 28 of 1969) as amended until 1979	No person shall destroy, damage, excavate, alter, remove from its original site or export from Namibia: (a) any meteorite or fossil; or (b) any drawing or painting on stone or a petroglyph known or	The proposed site for development is not within any known monument site both movable or immovable as specified in the Act, however in such an instance that any material or sites or

	<p>commonly believed to have been executed by any people who inhabited or visited Namibia before the year 1900 AD; or</p> <p>(c) any implement, ornament or structure known or commonly believed to have been used as a mace, used or erected by people referred to in paragraph; or</p> <p>(d) the anthropological or archaeological contents of graves, caves, rock shelters, middens, shell mounds or other sites used by such people; or</p> <p>(e) any other archaeological or palaeontological finds, material or object; except under the authority of and in accordance with a permit issued under this section.</p>	<p>archeologic importance are identified, it will be the responsibility of the developer to take the required route and notify the relevant commission.</p>
<p>Public Health Act (No. 36 of 1919)</p>	<p>Under this act, in section 119: “No person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other condition liable to be injurious or dangerous to health.”</p>	<p>The proponent will ensure that all legal requirements of the project in relation to protection of the health of their employees and surrounding residents is protected and will be included in the EMP.</p> <p>Relevant protective equipment shall be provided for employees in construction. The development shall follow requirements and specifications in relation to water supply and sewerage handling and solid waste management so as not to threaten public health of future residents on this piece of land.</p>
<p>Soil Conservation Act (No. 76 of 1969)</p>	<p>The objectives of this Act are to: Make provisions for the combating and prevention of soil erosion; Promote the conservation, protection and improvement of the soil, vegetation, sources and resources of the Republic;</p>	<p>Only the area required for the operations should be cleared from vegetation to ensure the minimum impact on the soil through clearance for construction.</p>
<p>Air Quality Act (NO. 39 of 2004)</p>	<p>The Air Quality Act (No. 39 of 2004) intends to provide for national norms and standards regulating air quality monitoring, management and control by all</p>	<p>The proponent and contractor should adhere to the Air Quality Act.</p>

	spheres of government; for specific air quality measures; and for matters incidental thereto.	
Vision 2030 and National Development Plans	Namibia's overall development ambitions are articulated in the Nation's Vision 2030. At the operational level, five-yearly national development plans (NDP's) are prepared in extensive consultations led by the National Planning Commission in the Office of the President. Currently the Government has so far launched a 4th NDP which pursues three overarching goals for the Namibian nation: high and sustained economic growth; increased income equality; and employment creation.	The proposed project is an important element in employment creation.

CONCLUSION AND IMPACT

It is believed the above administrative, legal and policy requirements which specifically guide and governs development will be followed and complied with in the planning, implementation and operations of the activity.

A flowchart indicating the entire EIA process is shown in the *Figure* below.

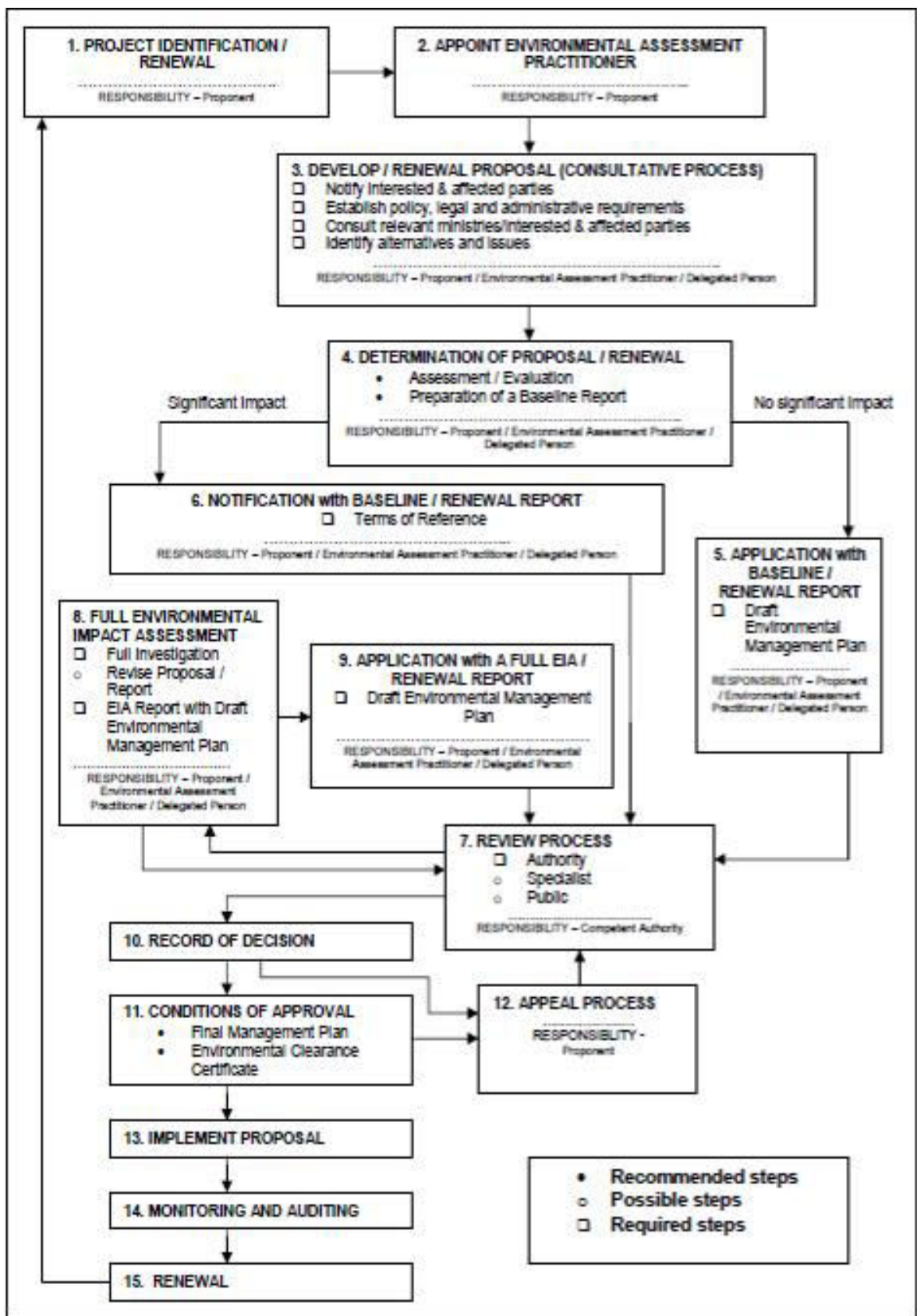


Figure 3: Flowchart of the Impact Process

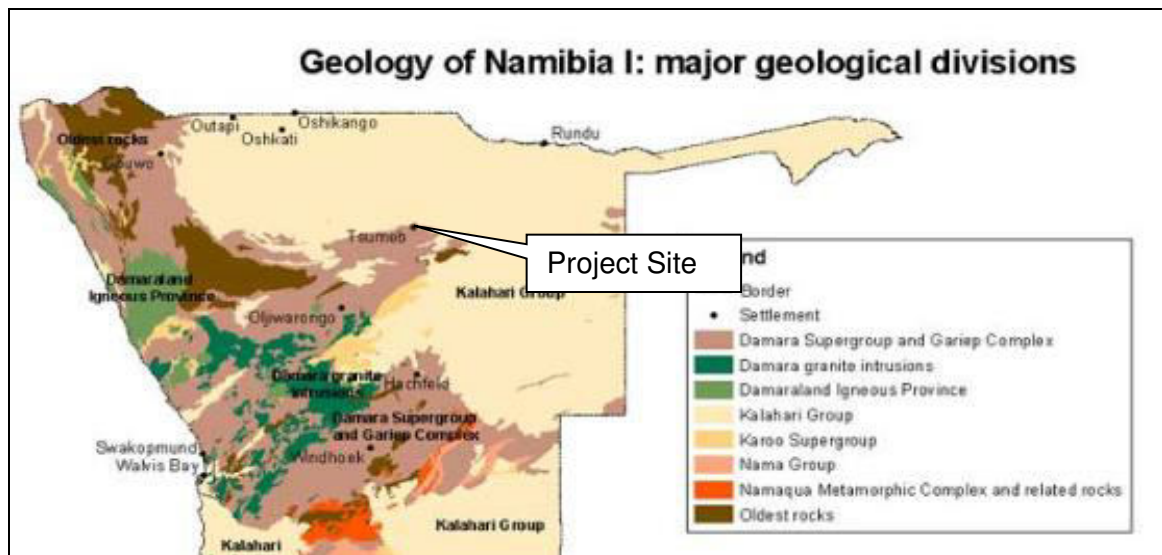


Figure 5: Geology of Namibia (Atlas of Namibia Project, 2002)

CONCLUSION AND IMPACT

The activities will not impact on the geology, soils and geohydrology of the area. The surface drainage canals will be kept open in order that water can flow through.

9.3.SOCIO ECONOMIC ENVIRONMENT

The proposed development will have a positive impact on the socio-economic environment. The project will create jobs during construction and there will also be permanent employment opportunities for people after completion. The key positive impact will be that water will be cleared of cryptosporidium contamination which will improve the general health of the town's residents. The incorporation of 'hardness removal' will also alleviate scale precipitation problems in the water supply network which will extend the lifespan of water pipes, taps and other fittings.

CONCLUSION AND IMPACT

The activities will have a positive impact on the community since their quality of life will be improved and employment will be created.

9.4.CLIMATE

The Tsumeb area is characterized with a semi-arid highland savannah climate typified as very hot in summer and moderate dry in winter. The highest temperatures are measured in December with an average daily temperature of maximum 31°C and a minimum of 17°C. The coldest temperatures, conversely, are measured in July with an average daily maximum of 20°C and minimum 6°C (*Weather, the Climate in Namibia, 1998 – 2012*). The area therefore has fairly low frost potential.

The prevailing wind direction is expected to prevent the spread of any nuisance namely noise and smell. The predominant wind in the region is easterly with westerly winds from September to December (*Weather, the Climate in Namibia, 1998 – 2012*). Extreme winds are experienced in the months of August and September and thus significant wind erosion on disturbed areas is visible.

The annual average rainfall for the area and surroundings is 500mm (*Weather, the Climate in Namibia, 1998 – 2012*). The majority of rainfall is experienced in the summer months. Rainfall in the area is typically sporadic and unpredictable however the average highest rainfall months are January to March.

CONCLUSION AND IMPACT

The activities will not have an impact on the climate.

9.5. CULTURAL HERITAGE

The proposed project site is not known to have any historical significance prior to or after Independence in 1990. The specific area does not have any National Monuments and the specific site has no record of any cultural or historical importance or on-site resemblance of any nature. No graveyard or related article was found on the site.

10. IMPACT ASSESSMENT AND EVALUATION

The Environmental Impact Assessment sets out potential positive and negative environmental impacts associated with the proposed project site. The following assessment methodology will be used to examine each impact identified, see *Table* below:

Table 5: Impact Evaluation Criterion (DEAT 2006)

Criteria	Rating (Severity)	
Impact Type	+	Positive
	O	No Impact
	-	Negative
Significance of impact being either	L	Low (Little or no impact)
	M	Medium (Manageable impacts)
	H	High (Adverse impact)

Probability:	Duration:
5 – Definite/don't know	5 - Permanent
4 – Highly probable	4 – Long-term (impact ceases)
3 – Medium probability	3 – Medium term (5 – 15 years)
2 – Low probability	2 – Short-term (0 – 5 years)
1 – Improbable	1 - Immediate
0 - None	
Scale:	Magnitude:
5 – International	10 – Very high/don't know
4 – National	8 - High
3 – Regional	6 - Moderate
2 – Local	4 - Low
1 – Site only	2 - Minor
	0 - None

The impacts on the receiving environment are discussed in the paragraphs below:

10.1. IMPACTS DURING THE CONSTRUCTION ACTIVITY

Some of the impacts that the project will have on the environment includes water will be used for the construction and operation activities, electricity will be used, a sewer system will be constructed and wastewater will be produced on the site that will have to be handled.

10.1.1. WATER USAGE

Water is a scarce resource in Namibia and therefore water usage should be monitored and limited in order to prevent unnecessary wastage. The proposed project might make use of water in its construction phase and operations.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Water	-	2	2	4	2	M	L

10.1.2. ECOLOGICAL IMPACTS

The proposed infrastructure will be constructed in a semi disturbed natural area which is partly covered with vegetation. Special care should be taken to limit the destruction or damage of the vegetation. However, impacts on fauna and flora are expected to be minimal. Disturbance of areas outside the designated working zone is not allowed.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Ecology	-	1	2	4	2	M	L

10.1.3. DUST POLLUTION AND AIR QUALITY

Dust generated during the transportation of building materials; construction and installation of bulk services, and problems thereof are expected to be low and site specific. Dust is expected to be worse during the winter months when strong winds occur. Release of various particulates from the site during the construction phase and exhaust fumes from vehicles and machinery related to the construction of bulk services are also expected to take place. Dust is regarded as a nuisance as it reduces visibility, affects the human health and retards plant growth. It is recommended that regular dust suppression be included in the construction activities, when dust becomes an issue.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	2	2	M	L

10.1.4. NOISE IMPACT

An increase of ambient noise levels at the proposed site is expected due to the construction activities. Noise pollution due to heavy-duty equipment and machinery might be generated. It is not expected that the noise generated during construction will impact any third parties due to the distance of the neighbouring activities. Ensure all mufflers on vehicles are in full operational order; and any audio equipment should not be played at levels considered intrusive by others. The construction staff should be equipped with ear protection equipment.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Noise	-	2	1	4	2	M	L

10.1.5. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and general public are of great importance. Workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). A health and safety officer should be employed to manage, coordinate and monitor risk and hazard and report all health and safety related issues in the workplace.

Safety issues could arise from the earthmoving equipment and tools that will be used on site during the construction phase. This increases the possibility of injuries and the contractor must ensure that all staff members are made aware of the potential risks of injuries on site. The presence of equipment lying around on site may also encourage criminal activities (theft).

Sensitize operators of earthmoving equipment and tools to switch off engines of vehicles or machinery not being used. The contractor is advised to ensure that the team is equipped with first aid kits and that these are available on site, at all times. Workers should be equipped with adequate personal protective gear and properly trained in first aid and safety awareness.

No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises. Proper barricading and/or fencing around the site especially trenches for pipes and drains should be erected to avoid entrance of animals and/or unauthorized persons. Safety regulatory signs should be placed at strategic locations to ensure awareness. Adequate lighting within and around the construction locations should be erected, when visibility becomes an issue.

Impact evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	M	L

10.1.6. CONTAMINATION OF GROUNDWATER

Care must be taken to avoid contamination of soil and groundwater. Use drip trays when doing maintenance on machinery. Maintenance should be done on dedicated areas with linings or concrete flooring. The risk can be lowered further through

proper training of staff. All spills must be cleaned up immediately. Excavations should be backfilled and sealed with appropriate material, if it is not to be used further.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater	-	2	2	2	2	M	L

10.1.7. SEDIMENTATION AND EROSION

Vegetation is stabilizing the area against wind and water erosion. Vegetation clearance and creation of impermeable surfaces could result in erosion in areas across the proposed area. The clearance of vegetation will further reduce the capacity of the land surface to slow down the flow of surface water, thus decreasing infiltration, and increasing both the quantity and velocity of surface water runoff. The proposed construction activities will increase the number of impermeable surfaces and therefore decrease the amount of groundwater infiltration. As a result, the amount of storm water during rainfall events could increase. If proper storm water management measures are not implemented this will impact negatively on the water courses close to the site.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Erosion and Sedimentation	-	1	2	4	2	M	L

10.1.8. GENERATION OF WASTE

This can be in a form of rubble, cement bags, pipe and electrical wire cuttings. The waste should be gathered and stored in enclosed containers to prevent it from being blown away by the wind. Contaminated soil due to oil leakages, lubricants and grease from the construction equipment and machinery may also be generated during the construction phase.

The oil leakages, lubricants and grease must be addressed. Contaminated soil must be removed and disposed of at a hazardous waste landfill. The contractor must provide containers on-site, to store any hazardous waste produced. Regular inspection and housekeeping procedure monitoring should be maintained by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Waste	-	1	2	4	2	M	L

10.1.9. CONTAMINATION OF SURFACE WATER

Contamination of surface water might occur through oil leakages, lubricants and grease from the equipment and machinery during the installation, construction and maintenance of bulk services at the site. Oil spills may form a film on water surfaces in the nearby streams causing physical damage to water-borne organisms.

Machinery should not be serviced at the construction site to avoid spills. All spills should be cleaned up as soon as possible. Hydrocarbon contaminated clothing or equipment should not be washed within 25m of any surface water body.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Surface water	-	2	2	4	3	M	L

10.1.10. TRAFFIC AND ROAD SAFETY

All drivers of delivery vehicles and construction machinery should have the necessary driver's licenses and documents to operate these machines. Speed limit warning signs must be erected to minimise accidents. Heavy-duty vehicles and machinery must be tagged with reflective signs or tapes to maximize visibility and avoid accidents.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Traffic	-	2	2	4	3	M	L

10.1.11. FIRES AND EXPLOSIONS

There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and they are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Fires and Explosions	-	2	2	4	2	M	L

10.1.12. SENSE OF PLACE

The placement, design and construction of the proposed infrastructure should be as such as to have the least possible impact on the natural environment. The proposed activities will not have a large/negative impact on the sense of place in the area since it will be constructed in a manner that will not affect the neighbouring erven / portions and it will not be visually unpleasing.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Nuisance Pollution	-	1	1	2	2	M	L

10.2. IMPACTS DURING THE OPERATIONAL PHASE

10.2.1. ECOLOGICAL IMPACTS

Staff and visitors should only make use of walkways and existing roads to minimise the impact on vegetation. Minimise the area of disturbance by restricting movement to the designated working areas during maintenance and drives.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Ecology Impacts	-	1	2	4	2	M	L

10.2.2. DUST POLLUTION AND AIR QUALITY

Vehicles transporting goods and staff will contribute to the release of hydrocarbon vapours, carbon monoxide and sulphur oxides into the air. Possible release of sewer odour, due to sewer system failure of maintenance might also occur. All maintenance of bulk services and infrastructure at the project site has to be designed to enable environmental protection.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Dust & Air Quality	-	2	2	4	4	M	L

10.2.3. CONTAMINATION OF GROUNDWATER

Spillages might also occur during maintenance of the sewer system. This could have impacts on groundwater especially in cases of large sewer spills. Proper containment should be used in cases of sewerage system maintenance to avoid any possible leakages. Oil and chemical spillages may have a health impact on groundwater users. Potential impact on the natural environment from possible polluted groundwater also exists.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Groundwater contamination	-	2	2	4	2	M	L

10.2.4. GENERATION OF WASTE

Household waste from the activities at the site and from the staff working at the site will be generated. This waste will be collected, sorted to be recycled and stored in on site for transportation and disposal at an approved landfill site.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Waste Generation	-	1	2	2	2	M	L

10.2.5. FAILURE IN RETICULATION PIPELINES

There may be a potential release of sewage, stormwater or water into the environment due to pipeline/system failure. As a result, the spillage could be released into the environment and could potentially be health hazard to surface and groundwater. Proper reticulation pipelines and drainage systems should be installed. Regular bulk services infrastructure and system inspection should be conducted.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Failure of Reticulation Pipeline	-	1	1	4	2	M	L

10.2.6. FIRES AND EXPLOSIONS

Food will be prepared on gas fired stoves. There should be sufficient water available for firefighting purposes. Ensure that all fire-fighting devices are in good working order and are serviced. All personnel have to be trained about responsible fire protection measures and good housekeeping such as the removal of flammable materials on site. Regular inspections should be carried out to inspect and test firefighting equipment by the contractor.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Fires and Explosions	-	2	1	4	2	M	L

10.2.7. HEALTH, SAFETY AND SECURITY

The safety, security and health of the labour force, employees and neighbours are of great importance, workers should be orientated with the maintenance of safety and health procedures and they should be provided with PPE (Personal Protective Equipment). Workers should be warned not to approach or chase any wild animals occurring on the site. No open flames, smoking or any potential sources of ignition should be allowed at the project location. Signs such as 'NO SMOKING' must be prominently displayed in parts where inflammable materials are stored on the premises.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Safety & Security	-	1	2	4	2	M	L

10.3. CUMULATIVE IMPACTS

These are impacts on the environment, which results from the incremental impacts of the construction and operation of the proposed project when added to other past, present, and reasonably foreseeable future actions regardless of what person undertakes such other actions. Cumulative impacts can result from individually minor

but collectively significant actions taking place over a period of time. In relation to an activity, it means the impact of an activity that in it may not become significant when added to the existing and potential impacts resulting from similar or diverse activities or undertakings in the area.

Possible cumulative impacts associated with the proposed project include sewer damages/maintenance, vegetation and animal disturbance, uncontrolled traffic and destruction of the natural environment. These impacts could become significant especially if it is not properly supervised and controlled. This could collectively impact on the environmental conditions in the area. Cumulative impacts could occur in both the operational and the construction phase.

Impact Evaluation

Aspect	Impact Type	Scale	Duration	Magnitude	Probability	Significance	
						Unmitigated	Mitigated
Cumulative Impacts	-	1	3	4	3	L	L

11. ENVIRONMENTAL MANAGEMENT PLAN

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

The objectives of the EMP are:

- ✓ to include all components of the proposed project.
- ✓ to prescribe the best practicable control methods to lessen the environmental impacts associated with the project.
- ✓ to monitor and audit the performance of the project personnel in applying such controls.
- ✓ to ensure that appropriate environmental training is provided to responsible project personnel.

The EMP acts as a document that can be used during the various phases of the proposed project. The contractor as well as the management and staff should be made aware of the contents of the EMP. See Appendix for EMP.

12. CONCLUSION

The EIA has been completed in line with the requirements of the Environmental Management Act, 2007 and Regulations and it is concluded and recommended that the specific site identified has the full potential to be used for the proposed activities. The identified environmental and social impacts can be minimized and managed through implementing preventative measures and sound management systems. It is

recommended that the environmental performance be monitored regularly to ensure compliance and that corrective measures be taken if necessary.

In general, the construction and operation of the proposed project would pose limited environmental risks, provided that the EMP for the activity is used properly. The EMP should be used as an onsite tool during the construction and operation of the project. Parties responsible for non-conformances of the EMP should be held responsible for any rehabilitation that has to be undertaken. After assessing all information available on this project, Green Earth Environmental Consultants are of the opinion that the proposed project site is suitable for the proposed activities. The accompanying EMP will focus on mitigation measures that will remediate or eradicate the negative or adverse impacts.

13. RECOMMENDATION

It is therefore recommended that the Ministry of Environment, Forestry and Tourism through the Environmental Commissioner support and approve the Environmental Clearance for the design, supply, installation, construction and commissioning of a new water treatment plant for Tsumeb Municipality, Tsumeb, Oshikoto Region and to issue an Environmental Clearance for the following 'Listed Activities':

WATER RESOURCE DEVELOPMENTS

8.6 Construction of industrial and domestic wastewater treatment plants and related pipeline systems.

HAZARDOUS SUBSTANCE TREATMENT, HANDLING AND STORAGE

9.1 The manufacturing, storage, handling or processing of a hazardous substance defined in the Hazardous Substances Ordinance, 1974.

9.2 Any process or activity which requires a permit, licence or other form of authorisation, or the modification of or changes to existing facilities for any process or activity which requires an amendment of an existing permit, licence or authorisation or which requires a new permit, licence or authorisation in terms of a law governing the generation or release of emissions, pollution, effluent or waste.

LIST OF REFERENCES

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MUNICIPALITY OF WALVIS BAY

Notice is hereby given in terms of section 63(2)(b) of the Local Authorities Act, 1992 (Act 23/1992), that the Municipality of Walvis Bay intends to lease, by private transaction, a Portion of Farm 38 to Sugar Room Namibia Trading CC.

DESCRIPTION: a Portion of Farm 38
AREA: 20000
[VAT] LEASE AMOUNT EXCLUDING 15% VAT: 17 800.00

If particulars pertaining to the lease will be inspected by interested persons until Tuesday 12 June 2023 at room 45, Municipal Offices, Kuusebmond. For more information Ms. Merinda Kees be contacted at telephone (064) 2013235 during office hours.

Any person objecting to the proposed lease, may in writing lodge an objection together with the grounds/motivation thereof, to the Manager, Housing and Properties at the above address or to Private Bag 5017, Walvis Bay, before or on Friday, 16 June 2023 at 12:00.

Jack Manala
Manager, Housing and Properties
Tel: (064) 201 3338
Email: jmanala@walvisbaycc.org.na
a Portion of Farm 38

CALL FOR PUBLIC PARTICIPATION/COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN TO DETAILED AN ENVIRONMENTAL CLEARANCE FOR THE DESIGN, SUPPLY, INSTALLATION, CONSTRUCTION AND COMMISSIONING OF A NEW WATER TREATMENT PLANT FOR TSAMBE, OSHKOTO REGION

Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMMP) to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4878 of 8 February 2012) for the design, supply, installation, construction and commissioning of a new water treatment plant for Tsambe Municipality, Tsumeb, Oshana Region.

Name of proponent: Tsambe Municipality
Project location and description: It is the intention of the Proponent to design, supply, install, construct and commission a new water treatment plant for Tsambe Town, Oshana Region. The proposed treatment facility will be located on the site of the Tsambe Dam. A locality plan of the site is displayed on the Town Planning Notice Board at the Tsambe Municipality, Above Garand Street, Tsumeb or can be obtained from Green Earth Environmental Consultants at Bidwegers Offices, 4 Dr Kwame Nkumam Avenue, Klein Windhoek.

Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments, and opinions regarding the proposed project. A public meeting will be held through public internet is shown. Registered & A's will be notified of the date and venue of the public meeting.
The notice for comments and/or registration is 19 June 2023.
Contact details for registration and further information:
Contact Persons: Charlie Du Toit
Tel: 0612312445
E-mail: charlie@greenearthnambila.com

CLOSURE OF ERF XIV, LUDERITZ AS PUBLIC OPEN SPACE AND REZONING OF ERF XIV, LUDERITZ (CLOSED OPEN SPACE) TO 'GENERAL BUSINESS' WITH A BULK OF 2.6 DU TOIT TOWN PLANNING CONSULTANTS

On behalf of the purchasers of Erf XIV, Luderitz, Salford International Property Services (Pty) Ltd. intends to apply in terms of the stipulations of the Urban and Regional Planning Act, 2018 (Act No. 5 of 2018) and Section 503(a) (ii) of the Local Authorities Act, 1992 (Act 23 of 1992), to the Luderitz Town Council and the Urban and Regional Planning Board for:

- Permanent closure of Erf XIV, Luderitz measuring 2.3 ha, as Public Open Space
- Rezoning of Erf XIV, Luderitz (Closed Open Space) to 'General Business' with a bulk of 2.6

Erf XIV, Luderitz located between Lambert, Luderitz and Buse Streets is 2,3634 ha in extent and reserved for Public Open Space purposes. Luderitz Town Council approved to sell Erf XIV to Salford International Property Services (Pty) Ltd for a retail development on the erf. In order for the sale and development to be completed, the statutory procedures of the closure and rezoning needs to be completed. An Environmental Impact Assessment will also be conducted as part of the process. Upon completion of the statutory procedures, the building plans can be submitted to the Town Council for approval.

Further take notice that the locality plan of the erf lies for inspection at the office of the Luderitz Town Council and at the offices of Du Toit Town Planning, 4 Dr Kwame Nkumam Avenue, Klein Windhoek.

Any person objecting to the proposed closure of the public open space and use of land as set out above may lodge such objection together with the grounds thereof with the Chief Executive Officer of Luderitz Town Council P.O. Box 19, Luderitz, Namibia and the applicant within 14 days of the last publication of this notice (final date for objections is 19 June 2023).

Applicant: DU TOIT TOWN PLANNING CONSULTANTS
P O Box 671
AUSSPANNPLATZ
WINDHOEK
Tel: 061-248610
Email: planner@duitotplan.com

NOTICE CONSENT IN TERMS OF TABLE 8 OF THE WINDHOEK ZONING SCHEME TO USE PORTION 2 OF ERF 36, NO 38 PROMENADE ROAD WINDHOEK FOR OFFICE PURPOSES

Take notice that DU TOIT TOWN PLANNING CONSULTANTS, are applying on behalf of the owner of the Portion 2 of Erf 36, No. 38 Promenade Road, Windhoek, in terms of the stipulations of the Urban and Regional Planning Act, 2018 (Act No. 5 of 2018), to the Windhoek City Council and the Urban and Regional Planning Board for:

- Consent in terms of Table 8 of the Windhoek Zoning Scheme to use Portion 2 of Erf 36, Windhoek for office purposes.

Erf 236 is located in Promenade Road, close to the junction of Nelson Mandela Avenue and Robert Mugabe Avenue and bordering The Village area. The erf measures 890m² and is zoned 'institutional'. The building on the erf is still the existing residential dwelling but has been used for office purposes for many years since in 2009 an application was lodged for the rezoning of Erf 236, Windhoek to 'office', which was approved but never finalised.

Since an office function is listed as a consent use within the 'institutional' zoning in the Windhoek Zoning Scheme within the definition of a 'business building', application can be made for consent under the 'institutional' zoning. This would bring the use in line with the Scheme. Sufficient parking can be provided for on-site and according to the requirements of Council.

Further take notice that the locality plan of the site lies for inspection on the Town Planning Notice Board in the Customer Care Centre, Municipal Offices, Riv. Michael Scott Street, Windhoek and at the offices of Du Toit Town Planning, 4 Dr Kwame Nkumam Avenue, Klein Windhoek.

Any person objecting to the proposed use of land as set out above may lodge such objection together with the grounds thereof with the Chief Executive Officer of Luderitz Town Council P.O. Box 19, Luderitz, Namibia and the applicant within 14 days of the last publication of this notice (final date for objections is 19 June 2023).

Applicant: DU TOIT TOWN PLANNING CONSULTANTS
P O Box 671
AUSSPANNPLATZ
WINDHOEK
Tel: 061-248610
Email: planner@duitotplan.com

IN THE HIGH COURT OF NAMIBIA, NORTHERN LOCAL DIVISION
SCHEM NO. HC-NLD-19-CV-ACT-CO-202209362

In the matter between:
WILHELMINA NAMBYA
JUDGEMENT CREDITOR

AND
LEONARD NEPELA
JUDGEMENT DEBTOR

NOTICE OF SALE

In pursuance of a judgment in the High Court of Namibia, Northern Local Division, held in Oshana dated 27th February 2023, the following goods will be sold in execution on 8th June 2023 at 12:00 at the ADVANCED REFRIGERATION, MAIN ROAD, OSHKATI, REPUBLIC OF NAMIBIA.

GOODS
22 X ZINK PLATES
2 X CUPBOARD
1 X WOOD SAW
AMOUNT OF TOOLS
1 X FLAT SCREEN TV
1 X DSTV
1 X MICROWAVE
1 X CAMPING CHAIR
1 X BARN FROG

CONDITION OF SALE: Voetboots DATE: 01 ONYVEDIVA on this day of APRIL 2023
MUKAYA NYAMBE INC
ERF NO. 6329, UNIT NO.5
CENTRAL PARK
AUGUSTE TAANYANDA STREET
ONGWENGA

TO: THE REGISTRAR
HIGH COURT
NORTHERN LOCAL DIVISION
OSHKATI

Property

OSHKATI, NAMIBIA

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REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALISATION AND TRADE, LIQUOR ACT, 1998
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998

(Regulations 14, 26 & 31)
Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region OSKANA.

- Name and postal address of applicant: ALBERTUS K. HANOWA, P O BOX 788, OKANAO
- Name of business or proposed business to which applicant relates: DND PUB
- Address/location of premises to which application relates: OSKATI, SHEREN LIQUOR LICENCE
- Nature and details of application: OSKATI MAGISTRATE COURT
- Date on which application will be lodged: 15-31 MAY 2023
- Date of meeting of Committee at which application will be heard: 12 JULY 2023

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALISATION AND TRADE, LIQUOR ACT, 1998
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998

(Regulations 14, 26 & 31)
Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region OSKANA.

- Name and postal address of applicant: LUKA LINDA NAMBIKA, P O BOX 451, RUCANANA
- Name of business or proposed business to which applicant relates: EASY BAR SHEREN
- Address/location of premises to which application relates: OSKATI, OSKATUMBE B URWALLUJHE
- Nature and details of application: LIQUOR LICENCE
- Clk of the court with whom application will be lodged: OUTAP MAGISTRATE COURT
- Date on which application will be lodged: 15-31 MAY 2023
- Date of meeting of Committee at which application will be heard: 12 JULY 2023

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALISATION AND TRADE, LIQUOR ACT, 1998
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998

(Regulations 14, 26 & 31)
Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region OSKANA.

- Name and postal address of applicant: NGHULUKA JIJEF, P O BOX 283, OSKATI
- Name of business or proposed business to which applicant relates: DOWN VALLEY PUB
- Address/location of premises to which application relates: OSKATI, SPECIAL LIQUOR LICENCE
- Nature and details of application: OSKATI MAGISTRATE COURT
- Date on which application will be lodged: 15-31 MAY 2023
- Date of meeting of Committee at which application will be heard: 12 JULY 2023

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

Employment

RECORDED NURSE / MOBILE NURSE

Registered nurse needed with at least 5 years of work experience
Must be registered with HPCNA
Must have a valid driver's license and able to work countrywide

Closing date 31/05/2023
Send CVs to: janine@careers@nepc.com (strictly by email)

Employment

HEADSPRING INVESTMENTS PTY VACANT POSITION

Headspring Investments PTY is seeking for:

Hydrogeological Engineer

The ideal candidate should have a diploma and degree as Engineer Hydrogeologist, over 10 years working experience in evaluating geological modelling and writing geophysical reports suitable for the environmentally sensitive areas. The person must be responsible for overall direction, coordination, implementation, execution and completion of project, for determination of the viability and the relevant details of mineral exploration based on the geological studies, ensure timely reporting and consistency with company strategy. Must be fluent in English and Russian.

CV to svetlana.Bauer@uranum1.com
Closing date: 01 June 2023

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REPUBLIC OF NAMIBIA
MINISTRY OF INDUSTRIALISATION AND TRADE, LIQUOR ACT, 1998
NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998

(Regulations 14, 26 & 31)
Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region OSKATO.

- Name and postal address of applicant: NANGOMBE LINDO KANGALI, P O BOX 157, ONGANGWA
- Name of business or proposed business to which applicant relates: COMFORT ZONE PUB
- Address/location of premises to which application relates: OSKATO, SPECIAL LIQUOR LICENCE
- Nature and details of application: OSKATO MAGISTRATE COURT
- Date on which application will be lodged: 31 MAY 2023
- Date of meeting of Committee at which application will be heard: 02 JULY 2023

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

Kudus close in on United

• HELGE SCHÜTZ

KUDUS Rugby Club moved to within a point of log leaders Trustco United with a commanding 48-31 win away to Grootfontein on Saturday.

Grootfontein provided strong opposition on their home turf, scoring five tries to Kudus' six, but Kudus flyhalf Geraldo Beukes was the difference as he contributed 23 points through a try, six conversions and two penalties.

Kudus' other try scorers were rightwing Paulo Andrews, flyhalf Chad Plato, lock Enzo Kotzee, and substitute back Ronaldo Diergaardt, who scored a brace.

For Grootfontein, prop Callie Swanepoel scored two tries, centre Jurgens Liebenberg and substitute forward Amutenya Amutenya one each, while fullback Ronald Deck added 11 points through a try and three conversions.

The victory puts Kudus second on the log on 19 points from five matches, one point behind Trustco United who have a match in hand.

Western Suburbs, meanwhile, were pushed all the way by a determined Reho Falcon before winning their encounter 44-26 at the Hage Geingob Stadium on Saturday.

Suburbs took an early 7-0 lead through a try by flanker Dhale Cloete, but Falcons narrowed the gap to 7-5 when lock Lwando Ntsetsa crashed over on an unconverted try.

Falcons continued to attack, but Suburbs caught them on the counter when wing Demarcho Hartung intercepted a backline pass to run 70m to score.



Photo: Helge Schütz

FORWARD ASSAULT ... Western Suburbs eighthman Richard Mapewa on the attack during their 44-26 victory against Reho Falcon.

The pacy Hartung soon added his second try, outstripping the defence as Suburbs went 21-8 ahead after half an hour.

Falcons came storming back after the break and two great tries by centre Liam Parker narrowed the deficit to 24-20.

Falcons, however, conceded several penalties which Suburbs scrumhalf Bronwon Willems converted, and

with hooker Vernon Diergaardt adding two tries and replacement back Dylan Izaacks one, they ran out 44-26 winners. For Falcons, fullback Enrique Huselmann added two penalties and a conversion, and flyhalf Brandon Dentinger a penalty.

The win puts Suburbs in fifth place on the log on 15 points, while Falcons are seventh and second last on six points.

Notices
• Legal •

tion at the office of the Liberland Town Council and at the offices of Du Toit Town Planning, 4 De Kwaena Nkunas Avenue, Klein Windhoek. Any person objecting to the proposed closing of the public open space and use of land as set out above may lodge such objection together with the grounds thereof with the Green Earth Environmental Consultants, P.O. Box 18, Liberland, Namibia and the applicant within 14 days of the last publication of this notice (final date for objections is 10 June 2023).

Applicant: DU TOIT TOWN PLANNING CONSULTANTS
P.O. Box 6871
ALDSIPPANPLATZ
WINDHOEK
Tel: 061-248010
Email: planner1@duoitplan.com

CLAD2303002017

NOTICE OF CONSENT IN TERMS OF TABLE B OF THE WINDHOEK ZONING SCHEME TO USE PORTION 2 OF ERF 26, NO 30 PROMENADEN ROAD WINDHOEK FOR OFFICE PURPOSES

take notice that Du Toit Town Planning Consultants, are applying on behalf of the owner of the Portion 2 of Erf 26, No. 30 Promenaden Road, Windhoek, in terms of the stipulations of the Urban and Regional Planning Act, 2018 (Act No. 1 of 2018), to the Windhoek City Council and the Urban and Regional Planning Board for

• Consent in terms of Table B of the Windhoek Zoning Scheme to use Portion 2 of Erf 26, Windhoek for office purposes

Erf 2728 is located in Promenaden Road, close to the junction of Nekesa Mandela Avenue and Robert Mugabe Avenue, and bordering The Village Area. The erf measures 820m² and is zoned "institutional". The building on the erf is still the existing residential dwelling but has been used for office purposes for many years already in 2009 an application was lodged for a "office", which was approved but never finalised. Since an office function is listed as a consent use under the "institutional" zoning in the definition of a "business building", application can be made for consent under the "institutional" zoning. This would bring the use in line with the Scheme. Sufficient parking can be provided for on-site and according to the requirements of Council. Further take notice that the locality plan of the site has for inspection on the Town Planning Notice Board at the Customer Care Centre, Municipal Office, Rev. Michael Scott Street, Windhoek and at the offices of Du Toit Town Planning, 4 De Kwaena Nkunas Avenue, Klein Windhoek. Any person objecting to the proposed use of land as set out above may lodge such objection together with the grounds thereof with the City Council (the Urban Planning Town House, Fifth Floor, Room 510) and the applicant within 14 days of the last publication of this notice (final date for objections is 10 June 2023).

Applicant: DU TOIT TOWN PLANNING CONSULTANTS
P.O. Box 6871
ALDSIPPANPLATZ
WINDHOEK
Tel: 061-248010
Email: planner1@duoitplan.com

CLAD2303002017

CALL FOR PUBLIC PARTICIPATION/ COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN TO OBTAIN AN ENVIRONMENTAL CLEARANCE FOR THE DESIGN, SUPPLY, INSTALLATION, CONSTRUCTION AND COMMISSIONING OF A NEW WATER TREATMENT PLANT FOR TSWANE, OSHANA REGION

Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMP) to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2009) and the Environmental Impact Assessment Regulations (GN 20/GN 4875 of 6 February 2013) for the design, supply, installation, construction and commissioning of a new water treatment plant for Tswane Municipality, Tswane, Oshana Region.

Name of proponent: Tswane Municipality

Project location and description: It is the intention of the Proponent to design, supply, install, construct and commission a new water treatment plant for Tswane Town, Oshana Region. The proposed treatment facility will be located on the site of the Tswane Dam. A locality plan of the site is displayed on the Town Planning Notice Board at the Tswane Municipality, Moses Gansob Street, Tswane or can be obtained from Green Earth Environmental Consultants at Bagdona Office, No. 4 De Kwaena Nkunas Avenue, Klein Windhoek.

Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments, and opinions regarding the proposed project. A public meeting will be held if through public interest is shown. Registered I & APs will be notified of the date and venue of the public meeting. The last date for comments and/or registration is 9 June 2023. Contact details for registration and further information: Green Earth Environmental Consultants Contact Persons: Charlie Du Toit/Carren van der Walt Tel: 061 272745

E-mail: carren@greenearthnamibia.com

CLAD2303002021

EXPRESSION OF INTEREST



NAMIBIA DIAMOND TRADING COMPANY SEEKS THE RESEARCH SERVICES FOR THE DELIVERY OF A COMPREHENSIVE DIAMOND DOWNSTREAM BENEFICIATION IMPACT ASSESSMENT REPORT.

DESCRIPTION

Namibia Diamond Trading Company is seeking an experienced company/consultant to conduct a comprehensive Beneficiation Impact Assessment Report. The assessment will cover the Namibian Diamond Industry Down Stream Beneficiation for the period 2007 – 2022.

SCOPE OF WORK

- The final report should be available on 10th September 2023
- Carry out comprehensive economic research that assess the effectiveness of the strategic framework to promote and enhance local beneficiation of diamonds mined in Namibia.
- Assessment of the utilization of diamonds downstream for the benefit of the country within the three spheres of sustainable development, namely environment, social, and economic.
- Any enabling or constraints from policy frameworks that enable competitive advantage, or disadvantage to the downstream because of policy, regulations, and...
- Possible strategic beneficiation intervention strategies to further promote downstream beneficiation.
- Assess opportunities to grow downstream beneficiation beyond manufacturing that includes broader Namibian participation in the value chain.

DOCUMENTS TO BE SUBMITTED

- Comprehensive company profile
- Company organogram
- References of previous clients on the provision of impact assessment reports
- Years of Experience

CLOSING DATE: 31 May 2023 24H00

Registered businesses who are interested in providing such services are requested to submit the company profiles and all relevant documents with the reference number:

NDTC 1001: PROVISION OF SERVICE FOR AN IMPACT ASSESSMENT REPORT

SUBMISSION OF ELECTRONIC COMPANY PROFILES

Email Address: Tenders@ndtc.com.na

Subject Line: **NDTC 1001: PROVISION OF SERVICE FOR AN IMPACT ASSESSMENT REPORT.**

DISCLAIMER

NDTC shall not be responsible for any cost incurred in the preparation and submission of a response to this expression of interest and further reserves the right to extend this expression of interest into any future tenders, negotiations, and engagements.

ENQUIRIES
Public & Corporate Affairs Manager
Helena Mosebeng
hmosebeng@ndtc.com.na
+264 61 204 3223



Walvis triumphs in Nalasra Games

• ADAM HARTMAN

THE Municipality of Walvis Bay emerged as the overall champion of the 12th edition of the Namibia Local Authorities Sports and Recreation Association (Nalasra) Games.

The sporting event drew to a close on Friday after five days of competitive sportsmanship and camaraderie where participants signified athletic prowess and commitment to mental health advocacy, in line with the theme of the event: 'Local Authorities Employees Mental Health Matters'.

Swakopmund mayor Dina Namubes, in her closing remarks, highlighted the success of the 2023 edition and praised the participants for their sportsmanship.

"Sport and games bring people together and foster strong relationships, identifying it as one of the crucial elements that aid the mental well-being of a person," said Namubes.

Erongo governor Neville Andre praised the success of this year's games and underscored the importance of sports in community building.

"What is also important is to say that now that you have seen the importance of sport, we

want to encourage more participation in future games," he said.

The Municipality of Walvis Bay led the competition, with triumphs in various categories such as oweta singles and doubles, fishing, and the 10km marathon for men and women over-40. Other notable achievements came from the Swakopmund municipality and the City of Windhoek, which secured second and third place, respectively, among over-40 participating local authorities.

Various sports codes had different winning teams, showcasing the diverse talents across Namibia's local authorities. The City of Windhoek dominated in pool singles, darts, volleyball men, netball, and the 21km marathon for men over-40.

Swakopmund excelled in golf and tug of war, while Rehoboth clinched victories in the relay, 100m men under-40, and 200m men over-40 events.

Nalasra president Daniel A Mouton said, despite the intense competition, the event served as a crucial platform for highlighting the importance of mental health, with the local authorities making substantial efforts to implement mental health programmes.

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- Cancellations and alterations: 18:00 two days before date of publication in writing only

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Attractive remuneration package will be offered to the successful candidate, which will include, and not limited to, medical aid cover

Please submit your application and CV (including copy of academic certificates) to the following email: dalitsosegula@gmail.com

Closing date for submission of application is 10th June 2023

GEZHOUBA VACANCIES

- Network and Information Security Senior ENGINEERS
- Geological and mineral service lab technicians
- Interpreters

- 5 years relevant work experience
- NCF 7 or equivalent tertiary degree

Contact: 0857808690

Job title: REGISTERED NURSE / MOBILE NURSE

- Registration must be provided with at least 5 years of work experience
- Must be registered with HPCNA
- Must have a valid driver's license and able to work countrywide

Closing date 31/06/2023

Send CVs to: jantmedicalliares@gmail.com (strictly by email)

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 Qualified Dental Therapists needed with 4 years experience and registered with HPCNA.

Send your CV and HPCN card to dentalcare0807@gmail.com



FOR Classifieds

061-2080800

PUBLIC NOTICE ENVIRONMENTAL IMPACT ASSESSMENT

Notice is hereby given that an application for an Environmental Clearance Certificate (ECC) will be made to the Environmental Commissioner in the Ministry of Environment, Forestry and Tourism in terms of the Environmental Management Act, (Act No. 7 of 2007) and related Environmental Impact Assessment Regulations for permission to undertake the activity listed below:

Listed Activity
 Reasoning of Portion X of the Remainder of Farm Hoentjes Bay No. 133 8/0m
 "Undertaken to 'Industrial' and to allow for the development of an Oil Refinery on the rezoned land portion. The extent of Portion X is 250 000 m² (25 ha)

Location
 Proposed site (Portion X) is located off the D1918 - Hoentjes Bay-Usakos gravel road to the right hand side when driving in the direction of Usakos.

Promoter
 E.N.M. Construction Investments

All AIPs are hereby invited to register for the EIA and to submit written comments, inputs, objections and/or concerns with respect to the envisaged activities. A Background Information Document (BID) is available upon request on registration.

Interested and Affected Parties (IAPs)

The duration to receive written submissions from IAPs starts from 29 May 2023 to 30 June 2023

Consultation Period

EIA Consultant
 Tel: 081 418 3125
 Fax: 088 645 026
 ekwa@ekwa.co.na

CALL FOR PUBLIC PARTICIPATION COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN TO OBTAIN AN ENVIRONMENTAL CLEARANCE FOR THE DESIGN, SUPPLY, INSTALLATION, CONSTRUCTION AND COMMISSIONING OF A NEW WATER TREATMENT PLANT FOR Tsumeb, Oshanao Region

Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMP) to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4678 of 8 February 2012) for the design, supply, installation, construction and commissioning of a new water treatment plant for Tsumeb Municipality, Tsumeb, Oshanao Region.

Name of proponent: Tsumeb Municipality
Project location and description: It is the intention of the Proponent to design, supply, install, construct and commission a new water treatment plant for Tsumeb Town, Oshanao Region. The Proposed treatment facility will be located on the site of the Tupperware Dam. A locality plan of the site is displayed on the Town Planning Notice Board at the Tsumeb Municipality, Moses Garoeb Street, Tsumeb or can be obtained from Green Earth Environmental Consultants at Bindigweiser Offices, No. 4 Dr. Kwame Nintuma Avenue, Khan Windhoek.

Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments, and opinions regarding the proposed project. A public meeting will be held if enough public interest is shown. Registered IAPs will be notified of the date and venue of the public meeting.

The last date for comments and/or registration is 8 June 2023. Contact details for registration and further information: Green Earth Environmental Consultants
 Contact Persons: Charle De Tollu
 Carlen van der Walt
 Tel: 0811273145
 E-mail: carlen@greenearthnamibia.com

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NOTICES
• Legal •

IN THE HIGH COURT OF NAMIBIA MAIN DIVISION WINDHOEK CASE NO: HC-MD-CIV-ACT-CO-2018/0200 In the matter between **NEDEBANK NAMIBIA LIMITED PLAINTIFF** and **ILKE HENRITTE AWCHEDE DEFENDANT** NOTICE OF SALE IN EXECUTION In execution of an order handed down by the above Honourable Court on the 5th of September 2019 in the abovementioned case, a judicial sale by public auction of the following will be held by the Deputy Sheriff of Windhoek on the 19th of June 2023 at 09:00 at 49F 49, CNR OF MICHELLE MCLEAN & PLATINUM STREETS, PROSPERITA, WINDHOEK, REPUBLIC OF NAMIBIA. List of Goods to be sold: 1. 100% Member's Shares in FORAM Media CC DATED at WINDHOEK on the 10th day of MAY 2023. KOEP & PARTNERS LEGAL PRACTITIONERS FOR PLAINTIFF 33 SCHANZEN ROAD WINDHOEK (SNUM/74629/DEB1) CLAO230001794

NOTICES
• Legal •

ERTY WILL BE SOLD AT NO LESS THAN 75% OF THE ESTABLISHED MARKET VALUE. (8) Interest at 12% interest per annum from 30 days after sale to date of full and final payment. (9) Deputy Sheriff's fees IMPROVEMENTS: 2 x Bedroom 1 x Bathroom Open Kitchen and Lounge Plan The "Conditions of Sale in Execution" will be for inspection at the office of the Deputy Sheriff of Tsumeb and at the Head Office of Plaintiff in Windhoek at Plaintiff's Attorneys, Koep & Partners at the undermentioned address. DATED at WINDHOEK this 5th day of MAY 2023. KOEP & PARTNERS LEGAL PRACTITIONERS FOR PLAINTIFF 33 SCHANZEN ROAD WINDHOEK REF: SNUM/78202/DEB761 CLAO230001927

NOTICES
• Legal •

between NEDEBANK NAMIBIA LIMITED PLAINTIFF and ESTATE AND WILLS CONSIGLIANTS 1ST DEFENDANT ROBERT SIDELLE KWAN 2ND DEFENDANT NOTICE OF SALE IN EXECUTION In execution of an order handed down by the above Honourable Court on the 10th of September 2018 in the abovementioned case, a judicial sale by public auction of the following will be held by the Deputy Sheriff of Windhoek on the 19th of June 2023 at 09:00 at 49F 49, CNR OF MICHELLE MCLEAN & PLATINUM STREETS, PROSPERITA, WINDHOEK, REPUBLIC OF NAMIBIA. List of Goods to be sold: 1. 100% Member's Shares in Northern Sun-Stormey CC 2. 100% Shares of Aho Beauty Hair CC DATED at WINDHOEK on the 10th day of MAY 2023. KOEP & PARTNERS LEGAL PRACTITIONERS FOR PLAINTIFF 33 SCHANZEN ROAD WINDHOEK (SNUM/73207/DEB122) CLAO230001795

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CALL FOR PUBLIC PARTICIPATION COMMENTS ENVIRONMENTAL IMPACT ASSESSMENT AND ENVIRONMENTAL MANAGEMENT PLAN TO OBTAIN AN ENVIRONMENTAL CLEARANCE FOR THE DESIGN, SUPPLY, INSTALLATION, CONSTRUCTION AND COMMISSIONING OF A NEW WATER TREATMENT PLANT FOR Tsumeb, OSHIKOTO REGION Green Earth Environmental Consultants have been appointed to attend to and complete an Environmental Impact Assessment and Environmental Management Plan (EMP) to obtain an Environmental Clearance Certificate as per the requirements of the Environmental Management Act (No. 7 of 2007) and the Environmental Impact Assessment Regulations (GN 30 in GG 4078 of 7 February 2012) for the design, supply, installation, construction and commissioning of a

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new water treatment plant for Tsumeb Municipality, Tsumeb, Oshikoto Region. Name of proponent: Tsumeb Municipality. Project location and description: It is the intention of the Proponent to design, supply, install, construct and commission a new water treatment plant for Tsumeb Town, Oshikoto Region. The Proposed treatment facility will be located on the site of the Tseppuwa Dam. A locality plan of the site is displayed on the Town Planning Notice Board at the Tsumeb Municipality, Moses Gaebele Street, Tsumeb or can be obtained from Green Earth Environmental Consultants at Ongevevies Office, No. 4 Et Kwame Nkomo Avenue, Khan Windhoek. Interested and affected parties are hereby invited to register in terms of the assessment process to give input, comments, and opinions regarding the proposed project. A public meeting will be held if enough pub-

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lic interest is shown. Registered I & A VPs will be notified of the date and venue of the public meeting. The last date for comments and/or registration is 9 June 2023. Contact details for registration and further information: Green Earth Environmental Consultants. Contact Persons: Charle Du Toit/Carren van der Walt. Tel: 081273145. E-mail: carren@greenearthna.com

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Court granted 17th day of April 2023, the following goods will be sold in execution by me on the auction on MONDAY, 19 June 2023 at 09:00 at https://www.namibian.com.nam/entry/64/WHITE-BAR-CHAIRS/8-WHITE-TABLES/12-WHITE-CHAIRS/2-X-ROUND-TABLES/1-X-SLEVER-FOOD-WARMERS/1-X-PLAIN-FOSS-SYSTEM/1-X-COFFEE-MACHINE/1-X-KEEP-FREEZER/2-X-STEEL-TABLES/1-X-DOUBLE-CHIP-FRYER/1-X-POLYDIP CUTTER TERMS OF SALE: "NO TESTS" AND "NO PAYMENTS TO THE HIGHEST BIDDER" DATED at WINDHOEK on the 29th day of MAY 2023. ISAACKS AND ASSOCIATES INC. LEGAL PRACTITIONERS FOR EXECUTION CREDITOR PER: MAGARETE VAN NIEKERK ERN 425 140 27. VAN RULHOUT STREET, WINDHOEK WEST WINDHOEK UNIFORMED CLAO230002183

IN THE HIGH COURT OF NAMIBIA MAIN DIVISION WINDHOEK CASE NO: HC-MD-CIV-ACT-CO-2022/0029 In the matter between **NEDEBANK LIMITED EXECUTION CREDITOR AND CLAUDE DENNER SCHOLTZ FIRST EXECUTION DEBTOR GAVE CHANITZ SCHOLTZ SECOND EXECUTION DEBTOR** NOTICE OF SALE IN EXECUTION Pursuant to Judgment of the above Honourable Court, the following immovable property will be sold without reserve and without bids by the Deputy Sheriff of the District of Walvis Bay on the 13th of JUNE 2023 at 10:00 of the undermentioned property. Certain Erf No. 1533 Meerling Extension No. 3 Situate in the Municipality of Walvis Bay Registration Division "F" Erongorip Registration Measuring 596 Five Nine Six Square Metres Improvements Three bedroom dwelling with two bathrooms, large open plan living area and double garage, etc. all of which are fitted with built in cupboards and average to good quality finishing, in an average to good condition, roof requires re-roofing. TERMS: 10% of the purchase price and the balance to be paid on the date of the sale. The further terms and conditions of the sale will be read prior to the auction and for inspection at the office of the Deputy Sheriff, Walvis Bay and at the office of the execution creditor's attorneys, GARDL INC Legal Practitioners for Plaintiff 3rd Floor, WHH House, Jan Jonker Road, Aussonweg, WINDHOEK (Tel: LUVINDAOA0181423/Julie) CLAO230002185


IN THE HIGH COURT OF NAMIBIA HELD AT MAIN DIVISION WINDHOEK CASE NUMBER: HC-MD-CIV-ACT-CO-2021/0361 In the matter between **NEDEBANK NAMIBIA LIMITED PLAINTIFF** and **TATENDA NICKSHA MWANANOMAYI 1ST DEFENDANT WICKY NICARDO KIEFER 2ND DEFENDANT** NOTICE OF SALE IN EXECUTION Pursuant to a judgment of the above Honourable Court granted on the 16th of SEPTEMBER 2022, the following immovable property will be sold "without bids" by the DEPUTY SHERIFF for the District of Tsumeb on Monday, the 19th day of June 2023, at 09:00 at ET 2572 (a portion of Erf 2541), Section No. 24, Copperville, Extension 4, Tsumeb, Namibia. CERTAIN Erf 2572 (a portion of Erf 2541), Section No. 24, Copperville, Extension 4, Tsumeb, Namibia. SITUATE in the Municipality of Tsumeb Registration Division "F" BE SERVE PRICE (a "TO THE HIGHEST BIDDER" IN TERMS OF RULE 110(1)(b), IN TERMS OF WHICH THE PROP-

Obituaries
• Death & Funeral Notice •

In innige herdenking

Sarah Maria Hegner
18 January 1952
- 01 June 2023

Psalm 90, 16 - 17
"Last U werk vir ons die dinkend word en U groeioord vir ons kindere."
"Egal ons die goeteheld van die Here ons God belewe."
"hou die werk van ons hande in stand, hou dit in stand."



NEDBANK GROUP LIMITED
(Incorporated in the Republic of South Africa)
Registration number: 18649/0630/06
221 Main Street, Windhoek
NIB share code: NIB
NIB share code: NIB
NIB share code: NIB
NIB share code: NIB
NIB share code: NIB
(Nedbank Group)

RESULTS OF THE GENERAL MEETING OF NEDEBANK GROUP SHAREHOLDERS TO APPROVE THE ODD-LOT OFFER

Background

Nedbank Group shareholders are referred to the Nedbank Group announcement published on the Stock Exchange News Service (SENS) on Thursday, 20 April 2023 (Odd-lot Offer Announcement) confirming the board of directors' decision to proceed with the implementation of an odd-lot offer (Odd-lot Offer) to repurchase Nedbank Group ordinary shares from shareholders (Odd-lot Holders) holding less than 100 Nedbank Group ordinary shares (Odd-lot Holdings) at a 5% premium to the 10-day volume weighted average price (VWAP) of a Nedbank Group ordinary share at the close of business on Monday, 19 June 2023 (Offer Price).

The Odd-lot Offer will provide Odd-lot Holders with the ability to dispose of their Odd-lot Holdings in an efficient manner and will provide liquidity at the 10-day VWAP for those Odd-lot Holders who elect not to retain their Odd-lot Holdings or who make no election. For Nedbank Group, it will, inter alia, reduce the complexity of and costs associated with managing a large shareholder base.

Odd-lot Holders can elect to retain their Odd-lot Holdings or sell their Odd-lot Holdings at the Offer Price. Those Odd-lot Holders who do not make an election by 12:00 (SA time) on Friday, 30 June 2023 will automatically be regarded as having accepted the Odd-lot Offer and chosen to dispose of their Odd-lot Holdings, and will receive the cash consideration, being the Odd-lot Holding multiplied by the Offer Price (Cash Consideration).

Results of the General Meeting

As stated in the Odd-lot Offer Announcement, the implementation of the Odd-lot Offer is subject to Nedbank Group shareholder approval. Nedbank Group shareholders are advised that the voting results for the general meeting (General Meeting) of Nedbank Group held today, Friday, 2 June 2023, were as follows:

Resolution	Number of Nedbank Group ordinary shares voted	Percentage of Nedbank Group ordinary shares in issue ¹	For ² %	Against ² %	Abstained ² %
Special resolution 1: Specific authority to repurchase Nedbank Group ordinary shares from the Odd-lot Holders	387 644 517	77,88	99,997	0,003	0,14
Ordinary resolution 1: Authority to make and implement the Odd-lot Offer	387 643 950	77,88	99,997	0,003	0,14
Ordinary resolution 2: Authority of directors	387 643 399	77,88	99,998	0,002	0,14

1 Based on 497 726 319 Nedbank Group ordinary shares in issue at the date of the General Meeting.
2 In relation to the total number of Nedbank Group ordinary shares voted at the General Meeting.

Based on the above voting results, all resolutions were passed by the requisite majority of Nedbank Group shareholders present in person or represented by proxy at the General Meeting, and therefore Nedbank Group will proceed to implement the Odd-lot Offer in accordance with the timelines set out below.

Sale dates and times

Details	2023
Odd-lot Offer opens at 09:00 (SAST)	Monday, 5 June
Finalisation announcement (including the Offer Price) released on SENS before 11:00 (SAST)	Tuesday, 20 June
Finalisation announcement (including the Offer Price) published in the South African press	Wednesday, 21 June
For administrative purposes, the nominee form of election (yellow) for the Odd-lot Offer to be received by the Issuer Sponsored Nominees (see note 3 below) by 12:00 (SAST)	Monday, 26 June
Last day to trade to participate in the Odd-lot Offer	Tuesday, 27 June
Shares trade 'ex' the Odd-lot Offer	Wednesday, 28 June
Form of election and surrender (blue) for the Odd-lot Offer to be received by the transfer secretaries in South Africa or Namibia by 12:00 (SAST)	Friday, 30 June
Odd-lot Offer record date	Friday, 30 June
Odd-lot Offer closes at 12:00 (SAST)	Friday, 30 June

Details 2023

Dematerialised Odd-lot Holders who have accepted the Odd-lot Offer or are deemed to have accepted the Odd-lot Offer will have their accounts held at their central securities depository participant or broker credited with the Cash Consideration Monday, 3 July

Payments of the Cash Consideration to certificated Odd-lot Holders who have accepted the Odd-lot Offer or who have made no election Monday, 3 July

Results of the Odd-lot Offer released on SENS Monday, 3 July






Results of the Odd-lot Offer published in the South African press Tuesday, 4 July

Cancellation and termination of listing of Nedbank Group ordinary shares repurchased in terms of the Odd-lot Offer expected on or about Tuesday, 4 July

Notes

- These salient dates and times are subject to amendment by Nedbank Group (and, to the extent necessary, the JSE Limited and other regulatory authorities). Any such amendments of the dates and times will be released on SENS and published in the South African press.
- All dates and times above and quoted generally in this announcement are South African dates and times (SAST), unless otherwise stated.
- Issuer Sponsored Nominees are Pacific Custodians Nominees (RF) Proprietary Limited, Corporate Nominees (Private) Limited or National Bank of Malawi Nominees Limited, being nominee companies through which certain Nedbank Group ordinary shareholders hold their Nedbank Group ordinary shares.
- Those Odd-lot Holders who do not make an election will automatically be regarded as having elected and accepted to dispose of their Odd-lot Holdings to Nedbank Group and receive the Cash Consideration.
- Nedbank Group ordinary shareholders may not dematerialise or rematerialise their Nedbank Group ordinary shares after the last day to trade to participate in the Odd-lot Offer until the Odd-lot Offer record date, being from Wednesday, 28 June 2023 to Friday, 30 June 2023, both dates inclusive.

Sanction
2 June 2023

Investment Bank and Corporate Advisor	Legal Advisor
	
Sponsors in South Africa	
	
Sponsor in Namibia	
	
<small>Old Mutual Investment Services (Namibia) (Pty) Ltd, member of the Namibian Stock Exchange</small>	

The Odd-lot Offer is not being made, directly or indirectly, in or into, or by use of the mails of, or by any means or instrumentality (including, without limitation, telephonically or electronically) of Interstate or foreign commerce of, or any facility of the national securities exchanges of a "Restricted Jurisdiction" (being any jurisdiction in which it is impractical, illegal or otherwise unlawful for the Odd-lot Offer to be made or accepted, including (without limitation) Australia, Canada, Japan and the United States of America) and the Odd-lot Offer cannot be accepted by any such use, means, instrumentality or facility or from within a "Restricted Jurisdiction". Accordingly, neither copies of the Odd-lot Offer circular nor any related documentation are being or may be mailed or otherwise distributed or sent in or into, or from a "Restricted Jurisdiction", and if received in any "Restricted Jurisdiction", should be treated as being received for information purposes only.

The information contained herein does not constitute a distribution, an offer to sell or the solicitation of an offer to buy any Nedbank Group securities in any jurisdiction in which such offer or solicitation is not authorised. In particular, the information herein is not for distribution and does not constitute an offer to sell or the solicitation of any offer to buy any Nedbank Group securities in the United States of America or to or for the benefit of any US Person as such term is defined under the United States Securities Act of 1933, as amended, and the Regulations promulgated thereunder.

Nothing contained herein should be construed as constituting tax or legal advice. Odd-lot Holders should seek independent advice from appropriate professional advisors about their tax position and in particular to confirm how the applicable tax legislation applies in their specific personal circumstances.

fnc

APPENDIX B: CONSENT LETTER

Enquiries: M. Pedro

Ref.: 16/1/3

Tel.: +264 (0)67 221056/7/8
Fax.: +264 (0)67 221464/221067



TSUMEB MUNICIPALITY

OFFICE OF THE CHIEF EXECUTIVE

Private Bag 2012
Tsumeb
Namibia

20 November 2023

AQUARIUS CONSULT CC
P.O. BOX 698
WINDHOEK
Namibia

Dear Dr. G. Lampert

REF: INSTRUCTION NO.3: DESIGNS AND BIDDING DOCUMENT OF A SAND FILTRATION AND A SOFTENER - CONSULTING SERVICES FOR DESIGN, BIDDING DOCUMENTATION, CONSTRUCTION SUPERVISION OF THE SAND FILTRATION AND SOFTENER PLANT (Procurement reference No: SC/DP/TBM-01/2023)

Following the meeting that was held on the 13 November 2023 with Namibia Water Cooperation, the Ministry of Agriculture, Water & Land Reform (Department of Water Affairs), the Tsumeb Municipality and the Ministry of Urban and Rural Development, the preliminary designs for the Sand filtration treatment plant is hereby approved.

It is on the above stated that an instruction is brought forth for the design and preparation of the bidding documents for the construction of the **sand filtration system** for the physical removal of clostridium and further disinfect with UV and then Chlorinate for residual chlorine in water. In addition, it is proposed that provision be made for the dosing of Chlorine Oxide as a standby chlorinator.

The designs must consider provision for future upgrades in order to meet the demands. Furthermore, you are requested to indicate to us on the possible completion date of the designs and documentation.

I trust you find the above in order.

Yours sincerely,


Victoria N. Kapenda
CHIEF EXECUTIVE OFFICER

VK/mp



Vision: "To be a well - Managed Modern City Offering Diverse Services and Opportunities to its Community and the Town of Choice in the Oshikoto Region for investors and Visitors"

APPENDIX C: POTABLE WATER TREATMENT PLANT DESIGN REPORT

APPENDIX D: CURRICULUM VITAE OF CHARLIE DU TOIT

1. **Position:** Environmental Practitioner
2. **Name/Surname:** Charl du Toit
3. **Date of Birth:** 29 October 1960
4. **Nationality:** Namibian

5. **Education:**

Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	Hons B (B + A) in Business Administration and Management		
Date Obtained	1985-1987		
Name of Institution	University of Stellenbosch, South Africa		
Degree/Qualification	BSc Agric Hons (Chemistry, Agronomy and Soil Science)		
Date Obtained	1979-1982		
Name of Institution	Boland Agricultural High School, Paarl, South Africa		
Degree/Qualification	Grade 12		
Date Obtained	1974-1978		

6. **Membership of Professional Association:** EAPAN Member (Membership Number: 112)

7. **Languages:**

	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Employment Record:**

	<u>From</u>	<u>To</u>	<u>Employer</u>	<u>Position(s) held</u>
	2009	Present	Green Earth Environmental Consultants	Environmental Practitioner
	2005	2008	Elmarie Du Toit Town Planning Consultants	Manager
	2003	2005	Pupkewitz Megabuild	General Manager
	1995	2003	Agra Cooperative Limited Namibia	Manager Trade
	1989	1995	Development Corporation	Chief Agricultural Consultant

1985	1988	Ministry of Agriculture	Agricultural Researcher
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Certification:

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



Charl du Toit

APPENDIX E: CURRICULUM VITAE OF CARIEN VAN DER WALT

1. **Position:** Environmental Consultant
2. **Name/Surname:** Carien van der Walt
3. **Date of Birth:** 6 August 1990
4. **Nationality:** Namibian

5. **Education:**

Institution	Degree/Diploma	Years
University of Stellenbosch	B.A. (Degree) Environment and Development	2009 to 2011
University of South Africa	B.A. (Honours) Environmental Management	2012 to 2013

6. **Membership of Professional Associations:**

EAPAN Member (Membership Number: 113)

7. **Languages:**

Language	Speaking	Reading	Writing
English	Good	Good	Good
Afrikaans	Good	Good	Good

8. **Employment Record:**

From	To	Employer	Positions Held
07/2013	Present	Green Earth Environmental Consultants	Environmental Consultant
06/2012	03/2013	Enviro Management Consultants Namibia	Environmental Consultant
12/2011	05/2012	Green Earth Environmental Consultants	Environmental Consultant

9. **Detailed Tasks Assigned:**

Conducting the Environmental Impact Assessment, Environmental Management Plan, Public Participation, Environmental Compliance and Environmental Control Officer

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any wilful misstatement described herein may lead to my disqualification or dismissal, if engage.

Carien van der Walt

APPENDIX F: ENVIRONMENTAL MANAGEMENT PLAN