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Environmental Management Plan (EMP) for the Rezoning of Erf 688 from Public Open Space to Business

Report

Version - Final

18 May 2016

Planet Rose Properties

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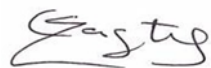
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1 INTRODUCTION

1.1 Background

Planet Rose Properties (The Proponent hereafter) proposes to rezone a portion of Erf 688, located in Millennium Park, Ndama Extension 1 in Rundu (Kavango East Region) from Public Open Space to Business. The Erf will be subdivided as follows:

- Portion A - approximately 4 800 m² - has been rezoned for “Business” use.
- The remainder - approximately 900 m² - will remain Public Open Space (see proposed site layout in **Figure 1-3**).

The proposed project site is located in the centre of a residential block in the Ndama Extension 1, near the intersection of Independence Avenue and Safari Street (**Figure 1-1** Error! Reference source not found.). **Figure 1-2** shows site photo with the subdivision of the erf. The coordinates for the site are 17° 55' 11.8'' S 19° 47' 11.2'' E.

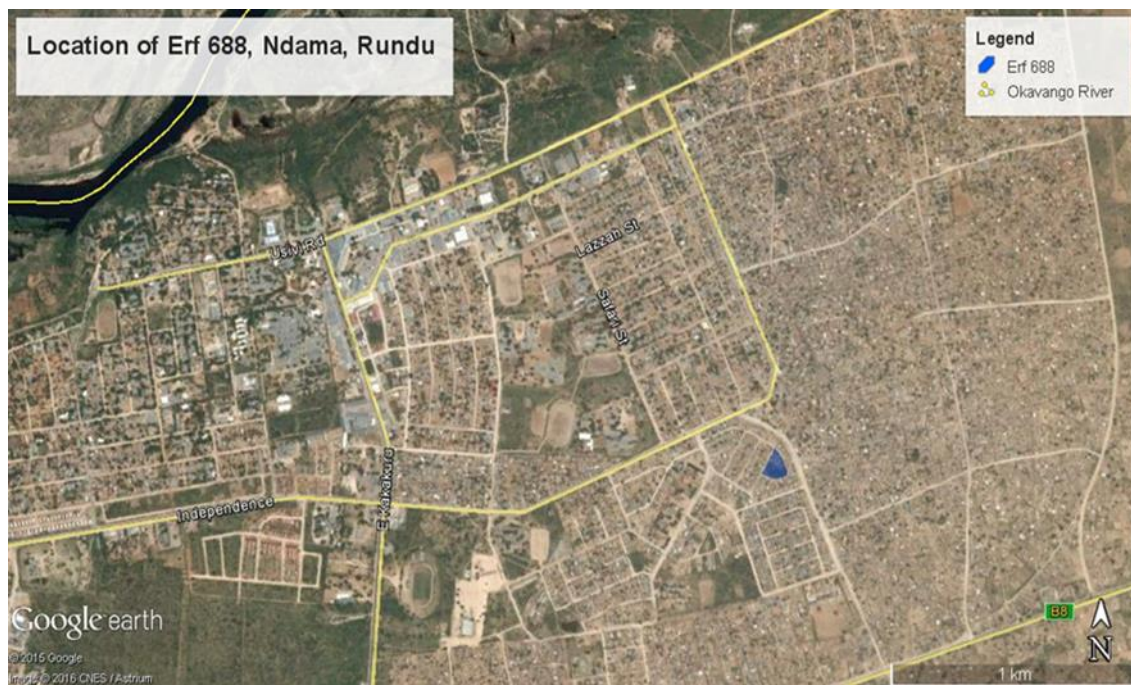


Figure 1-1: Proposed project site for rezoning, Erf 688 (blue), in Millennium Park, Ndama Ext 1 in Rundu



Figure 1-2: Location of Erf 688 in Ndama Extension 1 with the erf Portion A and The remainder of the area.

The Rundu Town Council has approved the rezoning of Erf 688 under the following conditions:

- The Developer is to cater for some of the amenities proposed by the concerned residents within the shopping complex;
- The Developer is to plan, develop and maintain a children's playground on the Remainder of Erf 688, Ndama Ext.1;
- The Developer is to appoint sufficient security guards at the shopping complex to ensure no alcohol and drug abuse takes place on the premises;
- The selling of liquor/alcohol is to be prohibited at the shopping complex;
- Traffic calming methods are to be introduced on the streets surrounding the shopping complex to ensure the safety of the residents;
- Pedestrian walkways and crossings are to be provided to ensure a safer environment;
- Sufficient parking is to be provided for taxi's and other vehicles;
- Off-loading facilities are to be well located so as to prevent trucks from interfering with traffic flow and to prevent noise from idling while off-loading; and

A public meeting is to be held by the Council with the concerned residents to explain the above mitigation measures and should the measures be found to be sufficient, the concerned residents are to provide a letter in which their objections are withdrawn.

1.2 Environmental Management Act (Act 7 of 2007)

Regulation 8 of the Environmental Management Act's (EMA) (7 of 2007) Environmental Impact Assessment Regulations (2012) requires that a draft Environmental Management Plan (EMP) should be included as part of the scoping Environmental Assessment (EA) process.

An EMP is one of the most important outputs of the EA process as it synthesises all of the proposed mitigation and monitoring actions, set to a timeline and with specific assigned responsibilities. This EMP details the mitigation and monitoring actions to be implemented during the construction and operational phase of the proposed development.

Consequently, GCS Water Environmental Engineering Namibia (Pty) Ltd (GCS Namibia hereafter), have been appointed by Planet Rose Properties as independent environmental consultants to conduct the required Environmental Assessment (EA) which includes compiling an EMP for the proposed development. The EMP is to be submitted with the scoping EA report as supporting documents to the application for an Environmental Clearance Certificate (ECC) to the Environmental Commissioner at the Department of Environmental Affairs (DEA) of the Ministry of Environment and Tourism.

1.3 Report structure

This EMP lays out the management actions for the rezoning of Erf 688 from Public Open Space to Business. The following phases will be addressed in this EMP:

- **Planning and design** - the period, prior to operation and maintenance, during which preliminary legislative and administrative arrangements are carried out in preparation for operation of the project; and
- **Construction phase** - during this phase the services infrastructure and future business related buildings will be constructed.
- **Operation and maintenance phase** - the period during which the constructed business related buildings will be operational and maintained by Planet Rose Properties.



Figure 1-3: Proposed site layout with Portion A (light blue area) and remainder of Public Open Space (light green)

2 ROLES AND RESPONSIBILITIES

Planet Rose Properties (the Proponent) is ultimately responsible for the implementation of the EMP. The Proponent may delegate this responsibility at any time, as they deem necessary, from the beginning of the construction phase throughout operation and maintenance phases. The delegated responsibility for the effective implementation of this EMP will rest on the following key individuals which may be fulfilled by the same person:

- Proponent's Representative
- Environmental Control Officer
- Contractor(s)

2.1 Proponent's Representative

If the Proponent does not personally manage all aspects of the planning and design, construction, operation and maintenance phase activities, referred to in this EMP, they should assign this responsibility to a suitably qualified individual referred to in this plan as the Proponent's Representative (PR). The Proponent may decide to assign the role of a PR to one person for all the phases. Alternatively, the Proponent may decide to assign one PR for each phase i.e. one PR for the planning and design phase, one for the construction phase and one for the operation and maintenance phase. The PR's responsibilities, included in Table 2-1 below are as follows:

Table 2-1: Responsibilities assigned to the Proponent's Representative from construction phase to operation and maintenance phase

Responsibility	Project Phase
Managing the implementation of this EMP and updating and maintaining it when necessary	Throughout the lifetime of the proposed project
Management and monitoring of individuals and/or equipment on-site in terms of compliance with this EMP	Throughout the lifetime of the proposed project
Issuing fines for contravening EMP provisions	Throughout the lifetime of the proposed project

2.2 Environmental Control Officer

The Proponent should assign the responsibility of overseeing the implementation of the whole EMP on the ground during the construction, operation and maintenance phase to a designated member of staff, referred to in this EMP as the Environmental Control Officer (ECO). The Proponent may decide to assign this role to one person for both phases or may assign two separate individual ECOs, one for construction and one for operation and maintenance. The ECOs will have the following responsibilities:

- Management and facilitation of communication between the Proponent, PR and Interested and Affected Parties (I&APs) with regard to this EMP;
- Conducting site inspections (recommended minimum frequency is monthly) of all operation and/or infrastructure maintenance areas with respect to the implementation of this EMP (monitor and audit the implementation of the EMP);
- Advising the PR on the removal of person(s) and/or equipment not complying with the provisions of this EMP;
- Making recommendations to the PR with respect to the issuing of fines for contraventions of the EMP; and
- Undertaking an annual review of the EMP and recommending additions and/or changes to this document.

2.3 Contractor

The Contractor is responsible for the implementation of this EMP during construction (see **Table 3-3**), on-site monitoring and evaluation of the EMP. It is envisaged that various contractors might be appointed at various periods for various tasks throughout the life cycle (construction through to operation and maintenance) of this project. These can be broadly grouped into Construction Contractors and Operations and Maintenance Contractors. In order to ensure sound environmental management, the relevant sections of this EMP should be included in all contracts of work outsourced, thus legally binding all appointed contractors and sub-contractors. All contractors shall ensure that adequate environmental awareness training of senior site personnel takes place and that all construction workers and newcomers receive an induction presentation on the importance and implications of the EMP. The presentation shall be conducted, as far as is possible, in the employees' language of choice.

The Contractor should keep records of all environmental training sessions, including names, dates and the information presented.

3 ENVIRONMENTAL MANAGEMENT PLAN ACTIONS

The aim of the management actions of the EMP is to avoid potential impacts where possible. Where impacts cannot be avoided, measures are provided to reduce the significance of these impacts.

Management actions recommended to manage the potential impacts rated in the EA carried out for the proposed development are presented in following tables. The management actions were compiled based on the following project phases:

- Applicable legislation (applicable throughout the project lifecycle) (**Table 3-1**);
- Planning and design phase management actions (**Table 3-2**);
- Construction phase management actions (**Table 3-3**); and
- Operation and maintenance phase management actions (**Table 3-4**).

The responsible persons at Planet Rose Properties should assess these commitments in detail and should acknowledge their commitment to the specific management actions detailed in the table of the next subchapters.

3.1 Assumptions and Limitations

This EMP has been drafted with the acknowledgment of the following assumptions and limitations:

- This EMP has been drafted based on the scoping-level Environmental Assessment (EA) conducted for the development of the business area in Millennium Park, Extension 1 of Ndama Suburb in Rundu - no specialist studies were included as part of the assessment.

- The mitigation measures recommended in this EMP document is based on the risks/impacts in the scoping report which were identified based on the provided project description and previous studies conducted on the proposed site. Should the scope of the project change, the risks will have to be reassessed and mitigation measures provided accordingly.

3.2 Applicable Legislation

Legal provisions that are applicable to activities to be carried for this proposed development are presented in **Table 3-1**. The legal instrument, applicable and corresponding provisions are provided.

Table 3-1: Legal provisions applicable to the development of the business area

Legislation	Permit/Approval/Requirement	Contact Details
Environmental Management Act 2007 Environmental Impact Assessment (EIA) Regulations (EIAR) (GG No. 4878)	The amendment, transfer or renewal of the Environmental Clearance Certificate (ECC) (EMA S39-42; EIAR Regs 19 & 20). Amendments (required every 3 years) to this EMP will require an amendment of the ECC for these developments.	Mr Damian Nchindo Tel: 061 284 2701
Water Act 54 of 1956	<ul style="list-style-type: none"> • Prohibits the pollution of underground and surface water bodies (S23 (1)). • Liability of clean-up costs after closure/abandonment of an activity (S23 (2)). 	Mr Witbooi (Department of Water Affairs): Tel: (061) 208 7226
Forestry Act 12 of 2001	<ul style="list-style-type: none"> • The Act provides for the management and use of forests and related products / resources. • It offers protection to certain vegetation species, and in this instance, a licence would be required to cut and remove any such vegetation. 	Town Planning Division Rundu Town Council Tel.: 066 266 400

3.3 Planning and Design Management Actions

The management requirements detailed in **Table 3-2** need to be carried out before any tenders are drafted for the construction of services infrastructure while necessary preliminary legislative and administrative arrangements are made in preparation out in preparation for operation of the development. These management requirements are also applicable for the period during which engineering designs/drawings are carried out.

Table 3-2: Planning and design management actions

Aspect	Management Requirement
<p>Planning layout of future business activities</p>	<p>The building plans of any future business activities submitted to the RTC for approval should include the following:</p> <ul style="list-style-type: none"> • Layout of playground • Layout of all pedestrian walkways and crossings • Layout of traffic calming measures • Layout of taxi stops <p>The Proponent should introduce traffic calming methods on the streets surrounding the business area to ensure the safety of the residents.</p> <p>Sufficient parking to be provided for taxis and other vehicles.</p> <p>Off-loading facilities to be well located so as to prevent trucks from interfering with traffic flow.</p>
<p>Architectural design</p>	<ul style="list-style-type: none"> • Architect need to incorporate sustainable architecture as part of the development • The layout and building design should incorporate large indigenous trees as far as possible. Removal of trees from the erf should be limited as far as possible. Instead, it should be trimmed to be incorporated in the design of the property or relocated to the public open space (remainder) to be used as shade trees. • The public open space should be developed so that it can be utilized by the public including the provision of park benches, shade (in the form of constructed roofs while trees are still too young to provide shade) and a play area for children. • Colours, textures, and materials used should blend in with the natural environment.
<p>Labour Recruitment</p>	<p>Provisions designed to maximise the use of local labour should be included within tenders concerning the:</p> <ul style="list-style-type: none"> • Provision stating that all unskilled labour should be sourced from local communities should be included within tenders concerning the construction. • Specific recruitment procedures ensuring local firms enjoy preference during tender adjudication should be included within tenders concerning the construction. • Provisions promoting gender equality pertaining to recruitment should be included within tenders concerning the construction

Aspect	Management Requirement
Run-off	<p>Storm water Management Plan should be developed by Planet Rose Properties for all planned development and include as a minimum the following:</p> <ul style="list-style-type: none"> • Canalising of run-off with concrete should be avoided as far as possible and natural run-off surfaces utilised or enhanced. • Storm water channels should be accommodated next to roads in the reserve. • Minimise paved or impermeable areas.
Biodiversity and Aesthetics	<p>All trees (a “tree” is defined here as an indigenous woody perennial plant with a trunk diameter ≥ 150 mm) that occur within the erf, which have not been officially surveyed by a registered land surveyor, should be surveyed and incorporated into the erf diagram of Erf 688. In addition this data should be incorporated in the RTC’s town planning and/or Geographic Information System (GIS). In this way these trees will form part of the Town Planning Scheme and their preservation can thus receive legal force.</p> <ul style="list-style-type: none"> • Trees that have not been registered and surveyed will be removed and the Proponent should apply for the licence to remove these trees from the Town Council. • Large indigenous trees and protected tree species like the Camel Thorn Trees (<i>Acacia erioloba</i>) should be surveyed and marked with red paint. • Each tree that is removed need to be replaced after construction.
EMP Implementation	<ul style="list-style-type: none"> • Planet Rose Properties needs to appoint a Proponent’s Representative (PR) that will act as their on-site implementing agent. This person should be responsible to ensure that Planet Rose’s responsibilities are executed in compliance with relevant legislation and this EMP.

3.4 Construction Phase Management Actions

The management actions for the construction phase are listed in **Table 3-3**.

Table 3-3: Construction phase management actions

Environmental Feature	Impact	Management Actions
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"> • Employees appointed for construction work on respective infrastructure must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.

Environmental Feature	Impact	Management Actions
Monitoring	EMP non-compliance	<ul style="list-style-type: none"> • The ECO or the Proponent should monitor the implementation of this EMP. • The ECO(s) should inspect the site throughout the construction on at least a weekly basis.
Waste Management		<ul style="list-style-type: none"> • The construction site should be kept tidy at all times. • All domestic and general construction waste produced on a daily basis should be cleaned and contained daily. • No waste may be buried or burned. • Waste containers (bins) should be emptied regularly and removed from site to the municipal waste disposal site. • All recyclable waste needs to be taken to the nearest recycling depot. • A sufficient number of separate waste containers (bins) for hazardous and domestic / general waste must be provided on site. • Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter. • No waste may remain on site after the completion of the project.
Waste water	Groundwater contamination	<ul style="list-style-type: none"> • Run-off / effluent that may infiltrate into groundwater systems should be properly handled onsite. • Wastewater (excluding sewage) should drain into lined / impermeable catch pits, big enough for daily / weekly usage without overflowing. Water from these catch pits should be removed from site to the nearest wastewater treatment facility by an approved wastewater removal company. • Wastewater collected in catch pits should be reused for cleaning equipment
Soil	Soil contamination	<ul style="list-style-type: none"> • ECO(s) should ensure that a sufficient number of drip trays are available on-site and that these are utilised in the event of leakage from construction trucks or vehicles.

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> • Ensure that any leaks or broken parts on construction equipment or vehicles should remain on site and shall not leave the site until they are repaired. If they cannot be repaired on site, care should be taken when transported elsewhere for repair. • Contaminated soils onsite that may have resulted from leakage/spillage construction vehicles or equipment should be removed to a depth dependent on the size of the spill and replaced with clean soil.
Air	Air quality	<ul style="list-style-type: none"> • Construction vehicles like trucks should not be allowed to stand idling during on loading of waste and off-loading of construction materials. • Potential dust that may be generated during construction should be suppressed by using a reasonable amount of water.
Biodiversity	Loss of Biodiversity	<ul style="list-style-type: none"> • Large indigenous trees on site need to be identified, marked and surveyed. • Trees with a trunk size of 150 mm and bigger should be surveyed, marked with paint (readily visible) and protected. • Trees with a trunk size of 150 mm and bigger, which are impossible to conserve, need to be identified and their location recorded on a map. • A list of all trees to be removed should be compiled. These trees are to be replaced in the ratio 1:2 with indigenous species such as Camel thorn (<i>Acacia erioloba</i>), African wattle (<i>Peltophorum Africanum</i>) and Bird Plum (<i>Berchemia discolor</i>) trees. The seedlings of these trees can be obtained from the Forestry office in Rundu. The Forestry office can also direct the Proponent to nearby nurseries where additional trees may be bought.
Dust and noise	Nuisance impacts	<ul style="list-style-type: none"> • Noise levels during construction should be kept within the allowable standards for urban areas.

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> • Work hours should be restricted to between 08h00 and 17h00 if construction involves the use of heavy equipment, power tools and the movement of heavy vehicles. • The contractor(s) should suppress dust associated with construction by using a reasonable amount of water, while respecting water scarcity if water rationing is initiated.
Health and Safety	Health and safety impacts	<ul style="list-style-type: none"> • The contractor(s) should ensure that all personnel are provided with personal protective equipment (PPE), such as coveralls, gloves, safety boots, safety glasses and hard hats at all times. • Potable water should be provided to workers. • No person should be allowed to smoke close to the portable toilets (if toilets are chemical toilets - the chemicals are flammable). • No workers should be allowed to drink alcohol during working hours. • No workers should be allowed on site if under the influence of alcohol. • No refuelling should be allowed onsite. • An appropriate location should be indicated on the site for the parking of construction vehicles. Construction vehicles should not park in the residential streets. • The proponent should put up a boundary wall around the construction site to limit children access (children have been using this area as a playground).
Construction labourers		<ul style="list-style-type: none"> • The Proponent should ensure that locals (from the Rundu area) are employed for any unskilled labour. • Construction labourers should not be recruited on-site. • Construction labourers will be transported, in a bus (or similar suitable passenger vehicle) to and from site daily. • Portable toilets (i.e. easily transportable) should be available:

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> • Separate ablutions should be available for men and women and should clearly be indicated as such. Sewage waste needs to be removed on a regular basis to the Rundu sewage disposal site. • Workers responsible for cleaning the toilets should be provided with latex gloves and masks. • No workers may reside on-site for the entire duration of the construction period. Only a security guard will be allowed to sleep on-site. <p>The Developer or contractor should draft a Communication Plan, which should outline as a minimum the following:</p> <ul style="list-style-type: none"> • How stakeholders, who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records; • How these stakeholders will be consulted on an ongoing basis; • Make provision for grievance mechanisms - i.e. how concerns can/ will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event that feedback is deemed unsatisfactory.

3.5 Operation and Maintenance Phase Management Actions

The table below (Table 3-4) presents the management action for the operation and maintenance phase.

Table 3-4: Operation and maintenance phase management actions

Environmental Feature	Impact	Management Actions
EMP training	Lack of EMP awareness and the implications thereof	<ul style="list-style-type: none"> • Employees appointed for operation and maintenance on respective site infrastructure and services must ensure that all personnel are aware of necessary health, safety and environmental considerations applicable to their respective work.
Monitoring	EMP non-compliance	<ul style="list-style-type: none"> • The ECO or the Proponent should monitor the implementation of this EMP.

Environmental Feature	Impact	Management Actions
		<ul style="list-style-type: none"> The ECO(s) should inspect the site operation throughout the operation on a biannual basis.
Water	Groundwater contamination	<ul style="list-style-type: none"> All business facilities should be connected to municipal sewage systems and waste water discharge systems and be in good working condition. No wastewater / effluent should be allowed to leave the site premises without proper control. These should be disposed of in accordance with municipal waste water discharge standards.
Health and Safety		<ul style="list-style-type: none"> There should be suitable waste containers available onsite and in the streets surrounding the business area. Security services should be provided for, in the premises and in the adjacent neighbourhood. A sufficient number of security guards should be appointed and on-site 24 hours to ensure no alcohol and drug abuse take place on the premises. Pedestrian walkways and crossing should be provided to ensure safety of the pedestrians.
Business activities		<ul style="list-style-type: none"> No alcohol should be sold by any vendor operating on Erf 688. No alcohol should be consumed anywhere on Erf 688.
Playground		<ul style="list-style-type: none"> Children's playground should be maintained - any grass should be cut on a weekly basis. All playground equipment should be inspected every 3 months (quarterly) to ensure that the equipment is in good working condition and safe.
Noise	Nuisance impact	<ul style="list-style-type: none"> Offloading goods trucks should only be done from 07:30 to 16:30 in the evening to prevent noise from idling trucks while off-loading before and after business working hours.
Vehicular traffic		<ul style="list-style-type: none"> Goods delivery trucks should only be offloaded before 07:30 in the morning and after 18h00, so that they do not interfere with the daily traffic flow.

4 CONCLUSIONS

GCS is of the opinion that the impacts associated with the rezoning of Erf 688 can adequately be addressed by implementing the mitigation measures provided in this EMP under **chapter 3** of this EMP. As such, GCS recommends that the proposed development and the following associated activities receive an Environmental Clearance Certificate, provided that the EMP is implemented and that the amenities proposed by the concerned and affected residents and conditions set by the Town Council are complied with.