

## **ELAGO-LYANDJE CONTRACTORS CC**

ENVIRONMENTAL MANAGEMENT PLAN FOR THE PROPOSED  
REZONING OF A PORTION OF THE PUBLIC OPEN SPACE ERF 878,  
AND SUBDIVIDE IT INTO TEN (10) SINGLE RESIDENTIAL ERVENS

OKAHAO, OMUSATI REGION

NOVEMBER 2022

### CONSULTANT'S EXPERTISE

I.N.K Enviro Consultants cc is the independent firm of environmental consultants that has been appointed by Elago-Lyandje Contractors cc to conduct the EIA process.

Immanuel N. Katali, the Environmental Specialist holds a B.Arts (Honors) Geography, Environmental Studies and Sociology and has over seven years of relevant experience in conducting/managing Environmental Impact Assessments (EIAs), Social Impact Assessments (SIA), compiling Environmental Management Plans (EMPs) and Environmental Compliance/Monitoring Audits in Namibia. Immanuel is certified as an environmental practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

### DECLARATION OF INDEPENDENCE AND DISCLAIMER

The environmental consultant herewith declare that this report represents an independent assessment of the proposed rezoning activities, on the request of Elago-Lyandje Contractors cc.

I.N.K Enviro Consultants cc has prepared this report based on an agreed scope of work and acts in all professional manner as an independent environmental consultant to Elago-Lyandje Contractors cc and exercises all reasonable skill and care in the provision of its environmental professional services in a manner consistent with the level of expertise exercised by members of the environmental profession.

The information, statements and commentary contained in this report have been prepared by I.N.K Enviro Consultants cc from information provided by Elago-Lyandje. I.N.K Enviro Consultants cc does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the party that provided the information or any conclusions reached. I.N.K Enviro Consultants cc has based this report on information received or obtained, on the basis that such information is accurate and, where it is represented to I.N.K Enviro Consultants cc as such, complete.

I.N.K Enviro Consultants cc is not responsible and will not be liable to any other person or organization for or in relation to any matter dealt within this report, or for any loss or damage suffered by any other person or organization arising from matters dealt with or conclusions expressed in this report (including without limitation matters arising from any negligent act or omission of I.N.K Enviro Consultants cc). This report must not be altered or added to without the prior written consent of either I.N.K Enviro Consultants cc or Elago-Lyandje Contractors cc.

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## 1 INTRODUCTION

### 1.1 Introduction to the Proposed Project

Elago-Lyandje Contractors cc (hereinafter referred to as Elago-Lyandje), intends on obtaining an Environmental Clearance Certificate (ECC) for the rezoning of a portion of the public open space erf 878, and subdivide it into ten (10) single residential ervens measuring a total of 3517 m<sup>2</sup> (refer to Figure 1). Erf 878 is located in Okahao Extension 3, Omusati Region, Namibia.

The proposed site and immediate surrounding areas comprise of the following:

- ◆ Public Open Space.
- ◆ Existing underground NamWater pipeline through the site.
- ◆ Existing overhead powerline north of the site.
- ◆ 10 Residential houses east of the proposed site.
- ◆ 5 Residential houses west and southwest of the proposed site.
- ◆ 6 Residential houses south of the proposed site.

In addition, Elago-Lyandje proposes to reroute the existing NamWater pipeline passing through the site as per Figure 2 below.

Prior to commencement of the construction activities, an Environmental Clearance Certificate (ECC) is required on the basis of an approved Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). It is with this background that, I.N.K Enviro Consultants cc (I.N.K) an independent firm of consultants, was appointed to undertake the Environmental Impact Assessment process for this project. More details regarding the EIA process that was followed are presented in Section 1.4.1.

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Figure 1: Locality Map



### 1.1.1 Details of the Persons who compiled this report

I.N.K Enviro Consultants cc is the independent firm of consultants that has been appointed by Elago-Lyandje Contractors to undertake the environmental impact assessment and related processes.

Immanuel N. Katali, the EIA project manager and lead practitioner holds a B.Arts (Honours) Degree in Geography, Environmental Studies and Sociology and has over seven years of relevant experience in conducting/managing EIAs, compiling EMPs and Socio-Economic Studies. Immanuel is certified as an Environmental Practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).



## 2 ENVIRONMENTAL ACTION PLANS

The management measures proposed to mitigate the potential impacts are detailed in the action plans below.

### 2.1 Action plans to achieve objectives and goals

Action plans to achieve relevant objectives/goals are listed in tabular format together with timeframes for each action. The action plans include the timeframes and frequency for implementing the mitigation measures as well as identifying the responsible party.

**TABLE 3- 1: ACTION PLAN – HYDROCARBON AND ASSOCIATED SPILLS MANAGEMENT**

Objective:

The objective of the mitigation measures is to handle and store hydrocarbons in such a way as to prevent spills. Where spills do occur, to ensure the spill is contained and the contamination cleaned-up and contaminated material disposed of responsibly.

Activities / facilities	Management and mitigation measures	Action plan	
		Frequency / target date	Responsible parties
Storage of hydrocarbons (i.e. diesel )	<ul style="list-style-type: none"> <li>Regular environmental awareness should include potential risks associated with hydrocarbons.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Vehicles, machinery, and equipment	<ul style="list-style-type: none"> <li>Vehicles, machinery and equipment shall be kept in good working condition to ensure they do not leak oil/diesel.</li> <li>Vehicles and machinery will be serviced off site as far as possible. However, in the event where machinery needs to be repaired/serviced on site all care shall be taken to prevent spillage of oil/diesel by performing the work on impermeable surfaces or proper placement of drip trays.</li> <li>All used parts from vehicles and machinery (which may include, but not limited to, oil filter, pipes, rags, cans) will be collected and removed from site and disposed of in an appropriate manner.</li> <li>Pollution will be prevented through basic infrastructure design and through maintenance of equipment in the nearest towns and not in the proposed sites.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
General (spills)	<ul style="list-style-type: none"> <li>Any spills will be contained and cleaned up immediately</li> <li>Spill kits will be readily available on site. Employees and/or contractors will be shown how to use the spill kits to enable containment and remediation of pollution incidents.</li> <li>The contractor will establish environmental awareness to employees</li> <li>Soil contaminated with hydrocarbons shall be excavated and stored in plastic bags inside a designated wheelie bin and transported for disposal at the nearest disposal facilities in the towns.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor

**TABLE 3- 2: ACTION PLAN – WASTE MANAGEMENT**

Objective:



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The objective of the management measures is to ensure proper storage, removal, transportation and disposal/recycling of hazardous and non-hazardous (i.e. domestic) waste.

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties
General	<ul style="list-style-type: none"> <li>Waste shall be separated and recycled / re-used where possible.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
	<ul style="list-style-type: none"> <li>No burning or burying of waste material will be allowed on the construction site.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
	<ul style="list-style-type: none"> <li>Contractors will be shown the importance of correct waste disposal as well as waste minimisation and recycling.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Collection and storage of waste	<ul style="list-style-type: none"> <li>Suitable receptacles with lids for waste disposal will be required at all sites.</li> <li>Ensure animals do not have access to waste bins. All food scraps need to be removed from site on a daily basis.</li> <li>If rubbish containers are used, ensure these can be sealed from wild animals or strong wind and for during transport.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Disposal of non-hazardous (domestic) waste	<ul style="list-style-type: none"> <li>Waste shall be transported a weekly basis from the site to the nearest disposal facility. No disposal of waste on site and no burning of waste.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Recyclables	<ul style="list-style-type: none"> <li>Recyclable material shall be taken to an identified recycling company.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Medical waste from First Aid Kit	<ul style="list-style-type: none"> <li>Medical waste where appropriate shall be disposed of at the medical waste facility.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor

**TABLE 3- 3: ACTION PLAN – BIODIVERSITY & LAND USE**

Objective:

The objective of the mitigation measures is to limit the destruction and general disturbance of biodiversity.

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties
Vehicles and machinery	<ul style="list-style-type: none"> <li>Vehicles will follow designated access routes.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Site preparation	<ul style="list-style-type: none"> <li>Any additional excavations made in the area should be backfilled.</li> </ul>	Throughout the	Construction contractor/

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for construction of infrastructure		construction activity	supervisor
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**Table 3- 4: ACTION PLAN – WATER QUALITY**

Objective:

The objective of the mitigation measures is to prevent negative impacts associated with water quality

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties
Mobile Ablution facilities	<ul style="list-style-type: none"> <li>Contractor must provide toilet facilities for the employees at the construction site.</li> <li>Contractor should ensure that toilets are working properly and are clean, so they do not pollute the surrounding environment or create hygiene problems..</li> <li>Personnel may not relieve themselves in the surrounding bush</li> <li>Mobile ablation facilities should be placed in such a way they do not get blown by windy conditions in the area.</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor
Contamination of groundwater / surface water	<ul style="list-style-type: none"> <li>Refer to “Hydrocarbon and associated spills Management Action plan”.</li> <li>Areas where hydrocarbons will be utilized, the surface should be covered with a plastic impermeable plastic liner to prevent the spillage on the soils and eventual infiltration into the ground.</li> <li>Project machines and equipment should be equipped with drip trays to contain possible oil spills when operated during construction works.</li> <li>All hydrocarbon substances and other potential pollutants associated with the project activities should be contained in designated containers on site and later disposed of at nearby approved waste sites in accordance with the discharge standards. This is to ensure that these hazardous substances do not infiltrate into the ground and affect the groundwater quality.</li> <li>In cases of accidental fuel or oil spills on the soils from site vehicles, machinery and equipment, the polluted soil should be removed immediately and put in a designate waste type container for later disposal as per the preceding bullet point. The removed polluted soil should either be completely disposed of or cleaned and returned to where it was taken from on site or can be replaced with a cleaner soil. This is to ensure that the pollutants contained in the soil does not infiltrate into the site soils and eventually reach to groundwater.</li> <li>Spill control preventive measures should be in place on site to management soil contamination, thus preventing and or minimizing the contamination from reaching groundwater bodies. The impact would be more on groundwater (aquifers) since the construction works will be done in the</li> </ul>	Throughout the construction activity	Construction contractor/ supervisor

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	dry months, thus there would be no rain to trigger (polluted) runoff to surface water bodies.		
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**Table 3- 5: ACTION PLAN –ARCHAEOLOGY SITES / HUMAN REMAINS**

Objective:

The objective of the mitigation measures is to prevent negative impacts associated with archaeology.

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties
Chance archaeological find of any (i.e. human burial/remains fossils, chipped stone age tools, pre-modern artefacts (bone, wood, metal, glass and/or ceramic), etc.)	Preserve the site by demarcating the site with flagging / danger tape, and cease any work in the vicinity of the site.	In the event of a chance find	Construction contractor/supervisor
	Notify the Project Manager.		
	Inform the National Heritage Council (NHC) of the find and take further instructions. Actions recommended by the appropriate Authorities may include an archaeological assessment, site preservation, removal of fossils or artefacts.		

**Table 3- 6: ACTION PLAN – SOCIAL ISSUES & TRAINING**

Objective:

The objective of the mitigation measures is to prevent negative social impacts associated the contractor’s workforce on site.

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties

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Employees (contractors) – social issues	<ul style="list-style-type: none"> <li>• Have zero tolerance to alcohol in the workplace.</li> <li>• A First Aid Kit should be available at all times during the construction process.</li> </ul>	Throughout the construction activity	Construction contractor/supervisor
Training & Awareness	Rules should be communicated to employees/ contractors before any construction.	<p>Prior to any activities taking place</p> <p>Throughout the construction activity</p>	Construction contractor/supervisor

**Table 3- 7: ACTION PLAN – NOISE AND AIR QUALITY**

Objective:

The objective of the mitigation measures is to prevent negative noise and air quality impacts associated the contractor’s workforce on site.

Activities / facilities	Technical and management options	Action plan	
		Frequency / target date	Responsible parties
Noise and Air Quality Impacts	<ul style="list-style-type: none"> <li>◆ Do not allow commercial activities that generate excessive noise levels.</li> <li>◆ Continuous monitoring of noise levels should be conducted to make sure the noise levels does not exceed acceptable limits.</li> <li>◆ No activity having a potential noise impact should be allowed after 18:00 hours if possible.</li> </ul>	Throughout the construction activity	Construction contractor/supervisor

**Table 3- 8: ACTION PLAN – REHABILITATION**

Objective:

The objective of the measures is to rehabilitate the construction sites to as close an approximation of the pristine state as is technically, financially and reasonably possible.

Activities /	Technical and management options	Action plan
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facilities		Frequency / target date	Responsible parties
Rehabilitation	<ul style="list-style-type: none"> <li>• All construction sites should be photographed (1) before commencement, (2) after completion and (3) after rehabilitation of the activities.</li> </ul> <p>At completion of the construction activity, the following rehabilitation works is recommended:</p> <ul style="list-style-type: none"> <li>• All unused equipment and material will be removed from all sites;</li> <li>• All litter from the construction sites will be taken to an appropriate disposal site.</li> <li>• All debris, scrap metal, etc. will be removed.</li> <li>• All small ditches/ trenches will be covered and contoured.</li> <li>• Impacted footprints outside are to be raked and/or ploughed to encourage re-vegetation.</li> <li>• Inspect to ensure rehabilitation measures are implemented</li> </ul>	<p>Before, during and after activities</p> <p>After construction activities at each of the sites.</p>	Construction contractor/ supervisor



## 1. PARTIES RESPONSIBLE FOR THE IMPLEMENTATION OF THE EMP

This section describes the roles and responsibilities for implementing the different parts of the environmental management plan (EMP).

### 2.2 Site Manager/ Supervisor

The Site Manager has overall responsibility for environmental management and safety during the construction process and shall oversee the implementation of the EMP.

The Site Manager's responsibilities relating to compliance with this EMP:

- Regular inspections and auditing of compliance to this EMP and any other relevant legal requirements.
- Regular correspondence on environmental issues and incidents.
- Conduct environmental awareness training during induction training and on an ad hoc basis thereafter to all workers.
- Ensure compliance to this EMP
- Ensure that staff is controlled through the implementation of appropriate security measures.
- Carefully manage the handling of hydrocarbons and other hazardous materials.
- Monitor for excessive dust, noise and biodiversity losses and implement control measures if necessary.
- Report incidences
- Implement a waste management strategy.
- Monitoring and maintenance of equipment and machinery.
- Ensure the provision of adequate sanitation facilities.
- Implement an environmental awareness plan.
- Implementation of first-aid procedures.
- Control of traffic safety and access route conditions.

### 2.3 ENVIRONMENTAL REPRESENTATIVE

The Site Manager might nominate an Environmental Representative to assist with overseeing each of the sites and implementing of the relevant EMP commitments.

## 2. TRAINING AND AWARENESS

The purpose of the job specific environmental awareness training is to ensure that employees/all staff are equipped to implement the actions committed to in the EMP. The staff involved in operations will receive training regarding the requirements of this EMP.

Two main forms of training will be provided on site:

- Site induction
- Environmental management training – general and targeted

The training will generally be prepared by the Site Manager / Supervisor (or the Environmental Representative).

The following will be done to ensure all employees, contractors, suppliers and visitors receive the appropriate training/awareness:

#### **2.4 Environmental Site Induction**

All new members of staff receive a corporate Environmental Induction along with the obligatory Health & Safety induction. The induction gives a general overview of the environmental challenges faced by the project, how we are managing them, and general tips for reducing our impact in the workplace.

The main reason for environmental induction is to encourage new staff to be environmentally aware right from the beginning of their employment. This will ensure that environmental initiatives are successful by eliminating bad habits from the start.

Before working on all sites, all personnel and sub-contractors will undertake a site induction incorporating environmental requirements. The induction will address a range of environmental awareness issues specific to the construction process of the project.

As a minimum, training shall include:

- Explanation on the importance of complying with the EMP and environmental implications should the EMP not be effectively implemented.
- Explanation of the rules.
- Discussion of the potential environmental impacts of activities, recognition of environmental risks and how to control these risks.
- The benefits of improved personal performance, understanding of what to do in case of an environmental event or exposure.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when carrying out operational activities.
- Explanation of the requirements of the EMP and its specification.
- Explanation of the management structure of individuals responsible for matters pertaining to the EMP.

#### **2.5 Environmental Awareness training**

Targeted environmental management training will be provided to individuals or groups of workers with a specific authority or responsibility for environmental management or those undertaking an activity with a high risk of environmental impact. This environmental training will aim to achieve a level of awareness and

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competence appropriate to their assigned activities. This training will take place at the beginning of construction activity and a refresher towards the end of the construction project.

