

**ENVIRONMENTAL PROGRESS AND MONITORING  
REPORT FOR SAND MINING ACTIVITIES ON PORTION  
A/988, OF THE REMAINDER OF TSANDI TOWNLANDS,  
TSANDI VILLAGE COUNCIL**



**PREPARED FOR**

**Tsandi village Council**

**P.O.BOX 373**

**Tsandi**

**PREPARED FOR**

**Green Gain**  
Consultants

 +264 81142 2927

 info@greegain.com.na

 <https://www.greengain.com.na>

**PERIOD: DECEMBER 2018 TO DECEMBER 2021**

# **1. INTRODUCTION AND BACKGROUND**

## **1.1 Introduction**

Tsandi Village Council was granted an Environmental Clearance Certificate (ECC) for the operation of Sand mining activities on Portion A of the remainder of Tsandi Town and Townlands No. 988. The ECC was issued on 06 December 2018 and expired on 06 December 2021.

Green Gain Consultants cc has been appointed as an independent Environmental Consultants) by the Tsandi Village Council to apply for the renewal of the ECC with the Ministry of Environment, Forestry and Tourism (MEFT). The consultant will also perform the duties of the Environmental Control Officer (ECO) for the operation of the Sand mining activities for the period of three years, starting in January 2024, thus is expected to perform the following duties.

- Compile progress report from December 2018 to December 2021
- Update the Environmental Management Plan (EMP)
- Submit application for the renewal of the ECC to MEFT
- Conduct monthly progress monitoring and compile biannual reports for the next 3years
- Advise Council on matters regarding the operation of the sand mining activities and matter incidental

As such, this report constitutes a progress report encompassing biannual reports for period December 2018 to December 2021. The report provides a summary of issues related to the sand and gravel mining activities on Portion A of Tsandi Town and Townlands No. 988. It also includes recommendations by the ECO to ensure that sand mining activities are done in line with the Environmental Management Plan (EMP) and with due diligence.

## 1.2 Locality

The existing sand mining site is located about 2 km northwest of the town Central Business District, on the Portion A of the Tsandi town and townlands No. 988 on the following coordinates -17.738978" S,14.876233" E.



Figure 1: Site locality



### 1.3 Site extent

The site is accessible through track roads from the town to nearby villages, alternatively via the gravel road (D3616) to Onesi. The area designated for sand mining activities measures approximately 5 ha in extent. The site is presently not fenced off and is bordered on the west by a water depression system locally known as Oshana connected to Etaka watercourse which is part of the Cuvelai drainage system.



*Figure 2: Site designated for sand mining activities*

#### 1.4 Operation procedure

The gravel mining process is taking place in a simplified method that involves using a tractor-backhoe-loader (TLB) to excavate overburdened material at a maximum depth of 1.5 meters. The excavated aggregate is loaded into haulage trucks by means of the front end and is transported straight to the site where it is required. No further processing is required for the mined material. Only the required materials are excavated at a time and transported to the construction site.



*Figure 3: TLB used for sand mining*



*Figure 4: Sand mining site*

## 1.5 Site rehabilitation

Burrow pits have been rehabilitated over the years and converted into water holding pans. These pans now serves as a source of water for animals and for domestic use by nearby villages.



*Figure 5: Rehabilitated burrow pit holding water*

## 2. ENVIRONMENTAL MONITORING AND REPORTING

To ensure continual improvement in environmental performance and reduce adversity of potential negative impacts the proponent does keep monitoring of certain environmental receptors. The monitoring is done at different intervals as indicated in the table below.

Issue to be monitored	Monitoring objectives	What needs to be monitored	Frequency and Monitoring	Responsibility
<b>Pollution</b>	-Avoid littering, pollution etc.	-litter, spillage and leakages	Daily	ECO
<b>Soil</b>	-Ensure soil conservation and prevent erosion	-Soil exposure, pollution, contamination, and soil erosion by windy conditions and water	Monthly	ECO-
<b>Vegetation</b>	-Avoid land degradation and encroachment	-Monitor the presence of any new plant species at the mined area and removal of any invading species i.e., <i>prosopis</i>	Annually (after rainy season)	MEFT-DoF
<b>Air quality</b>	-Ensure air quality	-Dust emission	Daily	ECO
<b>Noise level</b>	-Ensure noise level is at the required standard (85dB)	-Ambient noise level at mining site	Daily	ECO
<b>Implementation of the EMP</b>	-Ensure compliance to this EMP and adherence to the regulative measures	-Adherence to the EMP and legal requirements	Quarterly reports	ECO

The report on the environmental performance during the period December 2018 to December 2021 is provided in Section 4 below.

### **3. ENVIRONMENTAL PERFORMANCE**

#### **3.1 Infrastructure Development**

No new infrastructure development took place between December 2018 to December 2021.

#### **3.2 Quantity of material mined**

The quantity of sand and gravel material mined from the site since December 2018 to December 2021 stands at 56,560 m<sup>3</sup> (5656 loads x 10 cubic truck). These materials were used mainly for gravel road resealing (gravel) as well as for building and bricks manufacturing (sand).

#### **3.3 Human resources**

About 15 employees benefited directly from the sand mining activities. This includes operators, drivers, labourers, a site foreman, and administrators.

#### **3.4 Health and Safety**

All employees are equipped with Personal Protective Equipment (PPE). No injuries or accidents have been recorded for the period under review.

#### **3.5 Air Quality Management**

No dedicated weather station was commissioned for providing weather data for the site. Air quality monitoring is done by means of physical observation. No complaints received in this regard.

#### **3.6 Noise & Vibration Management**

Routine maintenance of the plant is done to ensure that the machinery meets a minimum standard for personnel working at the plant for long periods of time. No complaints received in this regard.

#### **3.7 Biodiversity Management**

A number of vegetation, mainly small trees were cleared as a result of sand mining. Areas with large trees and abundance of protected species are being avoided as far as possible.

#### **3.8 Waste management**

The mining site is kept neat and tidy and the personnel practices good housekeeping. No complaints have been received. Solid waste onsite is generated in relatively small quantities. Such waste is collected and disposed of at the dumpsite located a few kilometers from the mining site.

#### **3.9 Archaeology / Heritage Management**

No material of archaeological or heritage importance has been unearthed during the reporting period.

#### **3.10 Traffic Management**

The objective of these management measures is to reduce the potential for safety and vehicle-related impacts on road users. There are no high-priority tasks currently. Haulage of material from the site occasionally and material is transported straight to the construction site.



## 4. CONCLUSION AND RECOMMENDATION

### 4.1 Conclusion

The operation of the sand mining activities is done within the framework of the EMP and in compliance with the conditions listed under Appendix A of the ECC. The ECO will conduct regular monitoring of certain environmental parameters and take corrective actions accordingly.

### 4.2 Recommendation

The following recommendations are

- **Rehabilitation:** The proponent should continue with progressive rehabilitation of mined-out areas, unused track roads, and all damaged areas. Rehabilitation should include reshaping of burrow pits and closure of track roads that are no longer in use and if possible, revegetation of disturbed areas.
- **Regulatory Sign Boards:** There is a need to erect a regulatory sign board/s on the mining area. The Signboard should display information on the use of the mining site, contact numbers of operators, restrictions, penalties to violators, etc.
- **Sand/Gravel Mining Permit:** The Tsandi Village Council should develop and implement a Permit system to control sand mining activities. Permits are to be issued to all sand mining operators and to vehicle obtaining sand/gravel from the site.
- **Training:** All personnel involved in the sand mining activities should be provided with environmental awareness training on issues relating to the operation of the sand mining activities. Record of such training should be kept and attached to the biannual report.