



Endeavour Inc.

PROJECT SUMMARY FOR STORAGE OF AGGREGATES.
ORANGESTEIN, REGION 3

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

Contents

1.0	Introduction	2
2.0	Location and Property Description	4
3.0	Land Use	5
3.0	Market Analysis.....	6
4.0	Facility layout	6
5.0	Transporting and stockpiling/ Loading	7
6.0	Environmental Implications and Management.	7
6.1	Surface Water	7
6.2	Air and Noise Quality	8
6.3	Soil and Land Impacts	9
6.4	Waste Management	9
7.0	Occupational Health and Safety	10
8.0	Appendix.....	11

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

1.0 Introduction

The rapid growth of Guyana's construction/infrastructure industry has resulted in a steady rise in the demand for aggregate materials nationwide. This demand is projected to be at an all-time high in the future. Endeavour Inc. owned and operated by Mr Ramdat Sankar seeks to help in meeting the national demand for sand and loam resources by operating a storage facility for the sole purpose of selling of aggregate materials. The operation has already secured all the relevant permissions associated with its establishment, and is now seeking Environmental Authorisation from the Environmental Protection Agency (EPA).

This facility/operation is located in Region 3, at Orangestein, East Bank Essequibo, and is fully operational. The facility/ land area is measured at 240 feet x 700 feet, and the following structures are at the eastern section (facing the public road):

- Wooden elevated office;
- Storage shed;
- Vehicle repair shed;
- Sand, loam and stone stockpiles; and
- Fuel storage area.

Sand and Loam stockpiled at the area is sourced from Sand and Loam Mines owned by Mr Ramdat Sankar (Endeavour Inc.) located in Manaka, Essequibo River. While the stone is purchased from nearby suppliers. These Sand and Loam Mines are permitted by The Guyana Geology and Mines Commission (GGMC) and the Environmental Protection Agency (EPA). The materials arrives at the site on barges via the Essequibo River and offloaded into stockpiles to be sold to persons in and around the region.

The site is mainly drained by the Essequibo River, and there are no residents within close proximity to the operation. The nature of the operation is expected to have little to impact on the environment. A detailed description of the operation along with associated environmental implications will be addressed in the document.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

The company has dedicated itself towards ensuring that the minor environmental impacts resulting from the operation are either prevented or minimized through the use of pollution prevention and environmental best practices, and in general, the promotion of highly effective environmental management and sustainability.

Relevant Features of the Operation

Operator	Ramdat Sankar
Project Type	Storage of aggregate (sand and loam)
Location	Orangestein, Right Bank Essequibo River, Region 3
Size of Area/land	240 feet x 700 feet (Transported Property)
Soil Type	Alluvial Clay-Sandy
Product	Sand, loam and stone
Operation Components	Stock pile areas (sand, loam and stone)
	Office area
	Fuel storage area
	Storage bond
	Minor vehicle repair shed
Life Span of Mine	Infinite
Employment	7
Capital Investment	Approx. 100,000,000 Guyana Dollars
Status of Operation	Fully operational. Operates as commercial site for aggregates. Establish since 2018.
Nearest Resident	No nearby resident
Ecologically Sensitive Zone	None in or around the project area.

2.0 Location and Property Description



Map showing the Location of the operation.

The operation is in Orangestein which is located in Essequibo Islands –West Demerara (Region 3). The site is a transported property owned by Mr Khome Narain Sukul and leased to Mr Ramdat Sankar (Endeavour Inc.) (Lease agreement submitted with Application for Environmental Authorisation to EPA). The site is described as Lot “D” being part of a piece of land marked letter “B” of the Eastern half of Plantation Orangestein, measuring two hundred and forty feet (240 ft.) by seven hundred feet (700 ft.) situated on the right bank of the Essequibo River in the county of Essequibo.

The Site can also be access by river (Essequibo River) and Land. Access by land can be gained via the West Demerara Highway.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.



Map showing the location of the project area.

3.0 Land Use

As mentioned earlier the operation entails the stockpiling of aggregates (sand, loam and stone) for purchase. The operation was established in 2018. Immediately East of the site there the West Demerara Highway (Public Road), Immediately West is the Essequibo River, Immediately North there is an empty lot and Immediately South there is also an empty lot. There are no residents within close proximity to the operation

The general long term land use of the wider area in which the operation is situated can be described as mixed (housing, commercial, agriculture).

3.0 Market Analysis

The strong demand for sand and loam within the region sparked the establishment of this operation. Mr Sankar intention is to provide easy access to aggregate materials to person living in region 3, in a safe, convenient and effective manner.

4.0 Facility layout

This facility is located directly along the West Demerara Highway (public road). The following structures are on site:

- Wooden elevated office;
- Storage shed;
- Vehicle repair shed;
- Sand, loam and stone stockpiles; and
- Fuel storage area.



Map showing the main layout of the facility.

5.0 Transporting and stockpiling/ Loading

Sand and Loam is brought to the site from sand and loam mines owned and operated by Endeavour Inc. (Ramdat Sankar). These materials are transported to the site via barges along the Essequibo River. At the site with the use of excavators the sand and loam is offloaded and placed into trucks and taken to its designated stockpile area. This offloading is done at a wharf area at the bank of the Essequibo River at the site. Approximately 2,500 tons of materials is transported per shipment and it is anticipated that there will be one shipment per month.

When a purchase is made, trucks belonging to the Company of the customers are filled with sand, loam or stone with the use of an excavator. Persons purchasing material from the site utilize the public road for transport.

6.0 Environmental Implications and Management.

The storage/stockpiling of aggregates are expected to have minimum short-lived environmental impacts, these impacts are also expected to be easily predicted, observed, managed and avoided all together.

6.1 Surface Water

The Essequibo River is immediately west of the site. In addition to this the site is also surrounded by perimeter drains. Due to the fact that the operation is located directly on the right bank of the Essequibo River and offloading of materials are done at the river bank there is a potential for sediment discharge and erosion affecting the water quality within that vicinity.

The operation will have minimal to no impact on surrounding waterways, since the following measures will be implemented at the site:

- Stockpiles will be stacked at or below the angle of repose to prevent slippage and protective berms will be built to stop storm water run off from contaminating nearby waterways.
- Sediment and erosion control measures such as revetments will be

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

implemented where appropriate to mitigate impacts on receiver water quality.

- Fuel stored onsite will be in a bunded area.
- Waste will be collected and properly stored and disposed.

6.2 Air and Noise Quality

The primary source of noise at the site is from the offloading and loading of aggregates with the use heavy duty vehicles and machinery. The truck traffic that often accompanies aggregate transport can be a significant noise source. The impacts of noise are highly dependent on the sound source, the topography, land use, ground cover of the surrounding site, and climatic conditions. The beat, rhythm, pitch of noise, and distance from the noise source affect the impact of the noise on the receiver. Topographic barriers or vegetated areas can shield or absorb noise. Sound travels farther in cold, dense air than in warm air and travels farther when it is focused by atmospheric inversions than when inversions are not present.

Dust is one of the most visible, invasive, and potentially irritating impacts associated with stockpiling of aggregates, and its visibility often raises concerns that are not directly proportional to its impact on human health and the environment. Dust may occur as fugitive dust from stockpile materials and during offloading. Site conditions that affect the impact of dust are, moisture, ambient air quality, air currents and prevailing winds, the size of the operation, proximity to population centers, and other nearby sources of dust. Dust concentrations, deposition rates, and potential impacts tend to decrease rapidly away from the source.

As mentioned earlier there are no residents within close proximity to the site, however the following measures will be put in place to reduce the impacts of dust pollution:

- Dust emissions will be mitigated by wetting the walkway and driveway areas at the site during dry seasons.
- Workers will be required to wear the appropriate Personal Protective Equipment (PPE) including dust masks or respirators while working in dusty conditions.
- A vegetative buffer will be maintained around the perimeter boundaries of the site as far

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

as possible.

- Extra care will be taken at times of high winds or during other adverse weather conditions to minimise dust emissions when offloading materials.
- Noise and combustion emissions will be mitigated by installing sound suppression equipment on vehicles, e.g. mufflers; ensuring vehicles are maintained according to the manufacturer's manual and are kept in good working order.
- No operation at nights.

6.3 Soil and Land Impacts

Soil erosion and sedimentation may occur during the operation at the site. Soil contamination may also occur as a result of the accidental release of fuels, waste oils, and lubricants.

Mitigation measures to be implemented

- Soil erosion and sedimentation impacts will be minimized through the implementation of best management practices outlined by the Environmental Protection Agency (EPA).
- Fuels and waste oils will be managed to ensure safety in handling and the prevention of spills into soil.

6.4 Waste Management

The improper management and disposal of waste generated at the site can result in unhygienic conditions and degradation of the environment. Waste receptacles will be placed at the site, and will be disposed of by a disposal company.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

7.0 Occupational Health and Safety

Workers will be equipped with all the necessary safety gears. These include reflective vest, steel toe safety shoes, helmets, gloves, dusk mask and rain boots if required. The company intends to create a safety first policy by promoting and implementing programs to train staff on proper use of machinery and safety equipment.

All of the required signage (safety reminders, safety while operating heavy machinery, mine safety, safety operating vehicles, and road safety) will be placed around the facility to ensure compliance and a safe work environment.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.

8.0 Appendix



Picture showing a section of the stockpile area at the site.



Picture showing the fuel storage area at the site.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.



Picture showing the storage shed and minor repair shed at the site.



Picture showing one of the safety signs at the site.

ENDEAVOUR INC.
PROJECT SUMMARY FOR STORAGE OF SAND, LOAM AND STONE.



Picture showing the wharf at the site