

Vista Trading & Logistics (Guyana) Inc.

Project Summary

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Table of Contents

Background	2
Company Profile.....	2
Location of Proposed Project.....	3
Construction Phase	4
Operation Phase	5
Overview of Method	5
Conveying Systems.....	
Industries utilizing – conveying system	
Operation Process.....	5
Impacts from Proposed Activity.....	6
Waste Management	
References	
Appendix 1 – Site Plan	9
Appendix 2	10

Background

Cement is primarily valued as the key ingredient of concrete, the most widely used construction material in the world. And most types of cement are geared toward these diverse and widespread building needs. However, there are also specialty cements that reach beyond construction to fill critical needs in other industries. One such product is oil-well cement, which the petroleum industry uses for drilling oil and natural-gas wells.

Oil-well cements conform to API Specification 10A for well cementing applications (Hanson, 2020). It performs consistently in well cementing applications at extremes of depth, temperature, and pressure. Oil-well cement must be slow-setting and able to withstand the high temperatures and pressures of these deep wells. There are three type of oil-well cement which includes:

- Grade O or Ordinary which is utilized commonly
- HSR or High Sulphate Resistant
- MSR or Moderate Sulphate Resistant

Each grade is utilized where it is relevant to a specific scope of oil well sulfate situations, temperatures, pressures, plus depths. Oil well cement has turned out to be exceptionally beneficial for the oil business because of its attributes and the process plays a significant role in well-drilling operations. Meanwhile, there are two major factors affecting cement slurry performance which includes the concentration of additives and their distribution throughout the cement blend. Thus, the right type of equipment and processes are critical factors in achieving an optimized cementing job.

Company Profile

Vista Trading and Logistics (Guyana) Inc. is a Guyanese owned company family business which its stake holders are Guyanese through birth and as a family owned business children of Guyanese parentage. We also have our operations in Trinidad where we initially supported the operation and made the decision to move the Guyana based Oil and Gas support to Guyana as our objective was to ensure that the Team and company must be Guyanese based and supported from Guyana.

Our intention is to ensure continued support to both the Guyanese economy and employment. As part of our Corporate Social Responsibility, we have already supported the sporting sector with the University of Guyana T20 Cricket Team and several other local sporting organizations. We stand committed to our fellow Guyanese and neighbors and residents surrounding all of our operations and services.

Location of Proposed Project

The proposed construction of the warehouse to bag and distribute oil-well cement and other gas related equipment will be located at Le Ressouvenir on the East Coast Demerara approximately 11.26 kilometres (7 miles) away from the capital city, Georgetown. The total land area is approximately 1.0 acre which is characterized by predominately fine-textured, heavy clay soils. Annual rainfall varies from about 90 inches to 120 inches during two marked rainy seasons: April to August and November to January. The area is zoned for commercial and industrial activities with sensitive ecosystems, schools, hospitals and major water ways and sea defences located more than one (1) kilometer from designated area. However, surrounding land uses include residences approximately 50 metres to the south and west, and greater than 100 metres to the east. A place of worship is approximately 150 metres north, and a hotel 230 metres north as well. A drainage canal is 450 metres west and mangroves and sea is 680 metres north. The current land use is classified as Mixed Commercial use.



Figure 1: Showing proposed location of the project (Source: Google Earth, 2020)

Construction Phase

The construction phase of the proposed project will be executed in a manner that will ensure efficiency and quality products being delivered. This phase includes the construction of a warehouse to house all equipment necessary to bag and bulk transport oil-well cement and other oil and gas related equipment to potential clients. Refer to Appendix 1 for Site Plan of Proposed Project

Vista Trading & Logistics (Guyana) Inc. intends to have a work force of about twenty (20) skilled and semi-skilled workers. Figure 2 below shows the different activities that will form part of the construction phase.

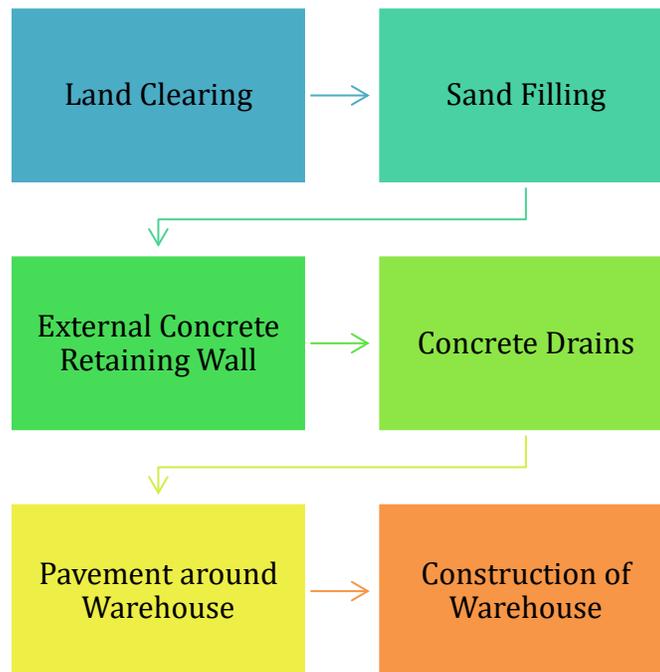


Figure 2: Various activities that will be done during the construction phases

Operation Phase

Overview of Method

During the operation phase, We would be receiving storing in Big Bags then the transfer of bulk (oil well) cement to silos and bulk tanker wagons and trailers for transport to customers location where the cement would be transferred to their silos at the different port or processing facility , We would have cement silos to aid in bulk storing of oil-well cement for delivery.

Process advantage

In these times of increasing concern over power consumption and the greater concern over the environment and the impact. Our system allows for minimal to almost no fugitive dust having almost no impact to the immediate facility or surrounding areas due to the technology and process implemented. Additionally, this system allows for:

- Minimal material degradation as the material is transported at low velocity
- Handles wide variety of material such as fragile, abrasive and friable as well as materials with high bulk densities
- No material spillage, no dust emissions, clean environment
- Low noise operation
- Low air flow rate

Operation Process

Warehouse Storage of cement in jumbo bags, delivery via bulk or trailer to silos will be set up and filled with a pneumatic discharge from the trailers or equipment at the customers site, which would have been loaded into tankers using a feeder screw conveyor. This makes the process contact less and prevents for any discharge or release into the building or environment.

Refer to Appendix 2 for SOP for Cement loading process, Analysis Sheets and Silo designs

Possible Impacts from Proposed Activity

The proposed activity and its inherent technological safeguards will result in the project having little to no significant impact to the environment. However, table 1 identifies the possible impacts and proposed mitigation measures.

Table 1: Showing potential impacts and mitigation measures

Environmental Component	Nature of Impact	Impact significance	Mitigation measures
Land	Erosion due to topsoil and vegetation removal during construction	Localised, Short-term, mitigable, insignificant, reversible	Minimize removal of vegetation to only areas where absolutely necessary. Revegetate where practical. Temporary bund exposed soil and redirect flows from heavy runoff areas that threaten erosion. Landscaping to reduce sloping. The development of the landscape and planting of trees and vegetative cover will be carried out after construction work.
Air Quality	Emissions from vehicles	Insignificant, short-term, mitigable, localised	Ensure equipment and vehicles are maintained according to manufacturer's specification.
	The removal of the surface layers of the soil will generate dust particles during the clearing of the site Dust emissions during transfer of cement to and from silos	Insignificant, mitigable	Avoid open storage of sand and other materials that may become windblown. Wet areas during construction. The process of spraying water should be carried out at least three times on every construction day especially if construction work is carried out during the dry season. Haulage trucks will be covered and the aggregates sprayed with water before loading the haulage trucks. Transfer machinery equipped with dust collector to trap emissions from transfer process.

Environmental Component	Nature of Impact	Impact significance	Mitigation measures
Noise	Noise from vehicles and equipment, generator	Insignificant, short-term, mitigable, localised	Ensure appropriate soundproof and/or sound attenuating devices are on equipment/vehicles/generator. Maintain appropriate working hours between 6 am to 18:00 hrs.
Surface water	Fuel leaks/spills from vehicles/equipment during construction and operation Sedimentation from storm water runoff during rain episodes	Insignificant, short-term, mitigable, localised	Proper handling during transfer of fuel and spill kits in place for clean-up of immediate leakages/spills. Avoid earthworks during rain events. Install appropriate interceptor drains and general drainage designs and management to prevent surface runoff entering directly into major water courses.
Waste	Waste generated during construction and operation that are generally municipal/domestic in nature. Contaminated materials, rags from servicing and/or any spills. Sewage	Insignificant, mitigable	Recover and recycle as far as practical. Garbage receptacles placed at appropriate locations on vessel and covered. Regular collection and disposal by authorized disposal services for disposal at EPA approved disposal sites/landfill. Enforcement of waste management and safe handling of waste. All contaminated solvents and solvents used to clean equipment are collected and stored in a drum for final disposal at an EPA approved disposal site/landfill. Solvent laden dirty rags are kept in a closed container and labelled "HAZARDOUS WASTE". Sewage is collected and disposed of by authorized disposal services.

Environmental Component	Nature of Impact	Impact significance	Mitigation measures
Human Health and Safety	Potential for accidents and upset conditions related to workers safety and health during construction	Mitigable	Provide workers with training in the proper use and maintenance of equipment. Appropriate PPE and safety equipment. Proper housekeeping. First aid for all staff on the site.
	Impacts on residents	Insignificant, mitigable	No significant impacts is expected to residents.

Requirements for Contractors during construction

At all times Contractors should be required to conform to the following particular stipulations in implementing construction works:

- Adherence to all regulatory requirements and authorizations e.g EPA
- There should be clear demarcation of the extent of Contractor's work sites including areas for material storage, working yards and plant storage.
- Health and safety equipment (including protective clothing and boots) should be available and in use at work sites and construction facilities/camps. First Aid boxes will be mandatory.
- If required, fuel storage sites during construction will be bonded by breams so as to confine and mitigate the effects of any spillage. The capacity of the confined area to be 100% of volume of fuel stored and protected from rainwater.
- Discharge of dust and fumes should be minimized and there should be no burning of materials/substances.
- Dump trucks will be equipped with devices to prevent material spillage and roads should be kept clean of mud and construction debris.
- The contractor should remove all construction equipment and scrap waste from his sites on completion.

Health and Safety Management

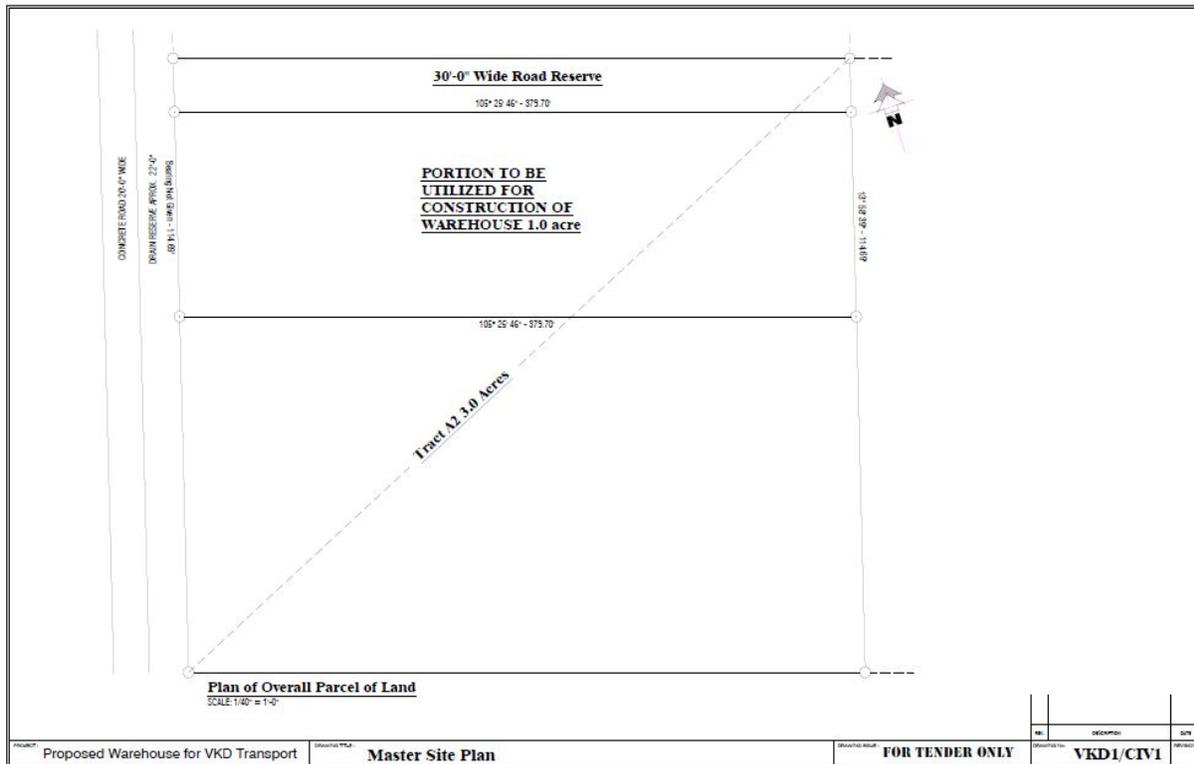
During construction and operation there will be opportunities to increase awareness of health and safety issues and implement appropriate standards of performance. Occupational and environmental health in and around the contractor's camps and facilities will also be subject to such scrutiny. It should be a requirement that the contractors supervising foremen will have basic First Aid training. There should also be plans for coping with emergencies. A fully stocked First Aid kit (and set of emergency numbers) will be available at each worksite and workshop. Appropriate safety protection equipment should be worn at all times. Protective equipment includes hard boots and hats, protection

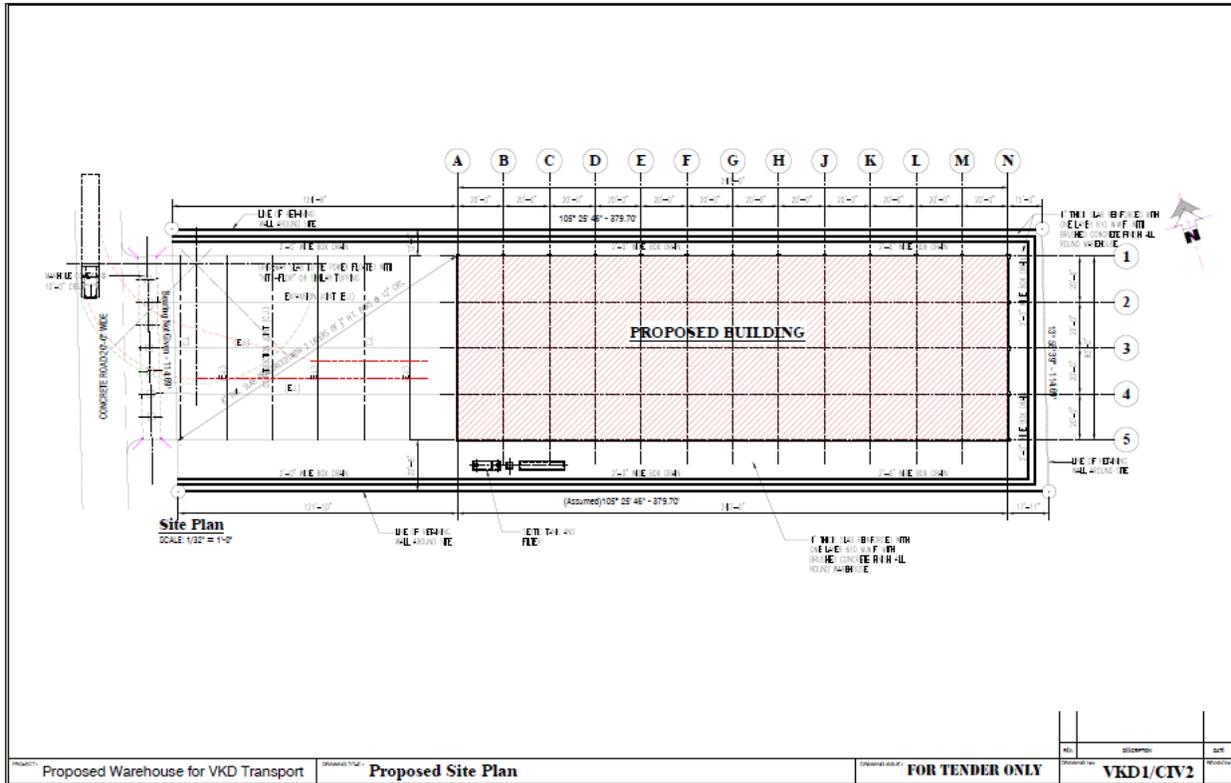
for eyes and ear. Likewise fire prevention measures should be in place, including the deployment of adequate functional extinguishers and simple dry sand buckets. The project monitoring programme should include inspection of safety equipment use. Basic hygiene standards should be required, with waste disposal collection containers and disposal by authorized companies.

Environmental Monitoring

Environmental monitoring programs will be implemented to address all activities that have been identified to have potential impacts on the environment during normal operations and upset conditions. Environmental monitoring activities would be based on direct or indirect indicators of emissions, and resource use as applicable.

Appendix 1 – Site Plan





Appendix 2

Attachments

- SOP for Loading of cement from bags into tankers using cement hopper
- Job Safety/Hazard Analysis Sheet