Name of Project: Animal Kingdom Veterinary Hospital

Name of Developer: Dr. Nardeo Bassoodeo

Contact Details of Developer: 217 Munipur Street, Prashad Nagar, Georgetown (5926544169)

Prepared by: Roovindra Singh

Date Prepared: December 4, 2023

1 Site Description

The site for the developmental works is located in Mon Repos on the East Coast of Demerara, the address of the parcel 35, Block XVIII, Mon Repos, ECD. The property is bordered by Melsha Furniture Store to the west and a private residence to the east. Before construction works would have begun, the land had an old timber structure with no fencing. The underlying material at the site is silty clay with organics. The veterinary hospital will receive all utility connections (GWI and GPL) from the Mon Repos Public Road, the developer will construct concrete drains around the perimeter of the property to ensure adequate drainage of the facility please refer to appendix 1 which shows the site plan for the project for more information.

2 Project Design

2.1 Overview

This proposal is being put forward by Doctor of Veterinary Medicine and Zoo Technology, Nardeo Bassoodeo, who is the sole owner of the animal welfare clinic, NB Veterinary Services (NBVS), the proposed parent company of the NB Veterinary Hospital (NBVH). Presently, NBVS has in its command the only diagnostic facility in Guyana that deals with pets, poultry, horses, sheep and goats, cattle and wildlife, and offers blood testing, urine testing, fecal testing, x-ray, ultrasound, microchip implant, biopsy and confirmative testing for more than 20 diseases in pets and livestock. In addition, NBVS provides consultancy for the GSPCA, The Humane Society International (HSI), the Wildlife Commission, the Guyana School of Agriculture, Poonai's Animal Health Care (in Berbice), and a few horse racing stables.

The NB Veterinary Hospital (NBVH) will be located around central Georgetown, and will have the capacity to serve patients from all regions of Guyana as well as Suriname. At present the NBVS must offer specialized care for high dependency and critical care patients at its current location in Prashad Nagar, and one of its primary limitations is space for expansion, Prashad Nagar being a residential area.

There is a growing need for specialized animal care worldwide and Guyana is not isolated. There has been a significant increase in demand loc6ally for orthopedic, dermatology, gastroenterology, ophthalmology, diagnostics and other specialized services, which no other clinic has been able to offer, or satisfy, to date in Guyana. The proposed NB Veterinary Hospital would be the first of its kind for Guyana and Suriname, with the potential to surpass facilities offered in Trinidad and Tobago. It would be capable of providing state of the art animal health care with access to modern diagnostic tools designed to meet the needs of all. The hospital will offer full service, providing basic, preventive and critical care to pets, companion animals, livestock and wildlife, and will also have a pharmacy on the premises stocked with a wide range of veterinary pharmaceuticals consistent with the hospital's high standard.

Dr. Nardeo Bassoodeo, who would head the NBVH team, has over 10 years experience in the veterinary field working for both government and the private sector, providing general and specialized services to pets, farm animals and wildlife. He is also trained in disaster response and management, spay and neuter field campaign execution and management, and biorisk management and the containment of biological threats to food production. The NBVH will have a core staff of at least 20 well qualified personnel, including four veterinary doctors,

Company and Management Summary

Head of the NBVH team, Dr. Bassoodeo, who has over 10 years of experience in his field, is a graduate of the Universidad de Granma, Bayamo, Cuba. On completion of his program in 2008, he returned to Guyana on a Government contract, and was made head of the Region 5

Animal Health Office under the Ministry of Agriculture (MOA). During his tenure there, he was able to mitigate the effects to two floods and one drought in the entire Region 5 area, including the Mahaica-Mahaicony-Abary Agricultural Development Authority (MMA-ADA) where mortalities were minimal due to timely veterinary intervention that helped to avert major devastation of the agriculture sector in that region in both livestock and crop areas.

In 2010, he was appointed to head the Government Livestock Improvement Unit and its duck hatching facility at NARI, Mon Repos, E.C.D. Later that year, he was also appointed National Quarantine Officer for all wildlife and companion animals traveling within Guyana and abroad. These were controlled both by the Wildlife Management Authority (WMA) and the Ministry of Agriculture (MOA). He also provided veterinary services to the National Parks Commission and the Guyana Zoo.

In 2012, the Guyana Livestock Development Authority (GLDA) was formed and all livestock and animal related matters from the MOA were tasked to the GLDA. Dr. Dindyal Permaul who was appointed CEO of GLDA gave Dr. Bassoodeo the task to organize and execute the first ever livestock exhibition and auction in 2013. This saw all animals sold and satisfied farmers were asking for it to be an annual event.

Later in 2012, Dr. Bassoodeo and his wife, Niranjanie Bassoodeo, established Pet Paradise and Livestock Supplies which holds a sizable market in Guyana in distributing pet and livestock supplies, imported from USA, India, Latin America, and the Caribbean, to other pet stores, veterinary clinics and the shelter. By the end of 2012, Dr. Bassoodeo started a low cost Spay and Neuter program in Georgetown. This has helped to create awareness in pet care and a decrease in strays on our roads and streets in Georgetown by controlling the pet population.

In 2014, he was awarded two scholarships. The first scholarship was to the Washington Animal Rescue league where he spent 3 weeks on improved procedures and methodology in companion animal population monitoring and control and disaster response and management. For the second scholarship, he was given the opportunity to work with Spay Panama in Panama City for a month to be trained in anesthesia, small incision and improved hygiene used during Spay and Neuter field campaigns.

Dr. Bassoodeo was also trained in Brazil and Peru in laboratory procedures and transportation of highly infectious substances, biorisk management and containment of biological threats to food production.

Dr. Bassoodeo resigned from GLDA in late 2014 to continue and expand his work in veterinary medicine throughout Guyana to include Horse Racing, Poultry, Companion Animals, Wildlife, Sheep and Goat, Cattle and Clinical Diagnostics, as he believed **all animals should have access to quality health care and be treated humanely.**

In 2015, he partnered with the GSPCA and HSI, on a voluntary basis, to offer free spaying and neutering of pets to the less fortunate pet owners, who have their pet neutered and spayed at the animal shelter, free of cost, as a way of controlling the stray population.

In 2017, Dr. Bassoodeo travelled to Puerto Rico to assist with the disaster response from Hurricane Maria. He served as a disaster response specialist alongside colleagues from USA, Trinidad and Tobago, India, China, and other countries.

To date, he continues to provide veterinary services to the Guyana Zoo, National Parks Commission and Guyana School of Agriculture. He has practiced veterinary medicine, based on research capacity, in USA, Brazil, Peru, Suriname, Nicaragua, Trinidad and Tobago, Cuba, Puerto Rico, Panama, Ecuador and other countries, completing over 15,000 successful surgeries on all species of animals.

2.2 Design Phase

The preliminary design for the Veterinary Clinicwas an iterative process as is the case with many projects, the aim was to balance cost with expectations. The design process investigated the feasibility of several building types and construction materials however in the end the final product was a three storey concrete structure comprising of offices, kennels, operating rooms, pharmacy. The architect/engineer for the project is Mr. R.Singh who has prepared all design drawings for the project. An important step in this process was also to acquire all the relevant construction permits from the NDC, EPA and Ministry of Housing. The duration of this phase was 12 months.

2.3 Pre-Construction Phase

This phase will encompass the site development works which includes clearing all vegetation and small tress from the plot, existing structures, excavation of soft spots in the sub grade. Construction of all external RC drains will also be done at this stage to allow for backfilling of the plot to the desired construction levels. During these works it is expected that approximately 500 cubic yards of white sand will be required for bring the site up to design grade. As a consequence, in this phase sand trucks and a small wheel loader (bob cat) will be prevalent on the site. This duration of this phase is expected to be 1 month.

2.4 Construction Phase

During this phase the 78,300 square feet Veterinary Hospital will be erected. Almost all of the construction will be reinforced concrete and hollow concrete blocks with the exception of the mezzanine floor which will be timber construction. Works will start on the foundations first and proceed up to the roof level in stages. It is anticipated that 10-12 construction workers will be full time on the project during this stage. After the roof is constructed electrical and plumbing technicians will start on the installation of cables and pipes, after these are completed finishing and external works will commence, it is expected to have the building completed in March 2024. This duration of this phase is expected to be 12-18 months.

2.5 Operation Phase

The operational phase of the project will be mundane for a facility of this type, There will be approximately 25 full time employees at the hospital consisting of doctors, technicians, nurses and janitorial and maintenance staff. The design life for the project is 30 years.

2.6 Utilities

The main electricity supply will come from the Guyana Power and Light (GPL) with backup power provided by a 25KVA stand by diesel generator. The generator will be equipped with the necessary mufflers and located in a sound proof enclosure. Water will be provided by Guyana Water Inc (GWI) from the Public Road access, there will be at least 500 gallons of storage provided on the property to cater for interruptions in the service. Communications and data will be provided by Guyana Telephone and Telecommunications (GTT); the service connections will also come from the Francois Street boundary.

All grey water effluent will be drained using perimeter RC drains with the primary discharge point being the drainage ditches along Sheriff Street. Black water effluent will be addressed with a septic system; the design of the septic system will follow recommendation by the GNBS and EPA. Additional solid waste (dead animals, and other hazardous wastes will be disposed of in accordance with our solid waste management plan.

3 Environmental Effects

Most if not all the impacts of this project will be during the pre-construction and construction phases, these impacts and the appropriate mitigation / management measures are provided below.

3.1 Air Quality (Exhaust Emissions and Fugitive Dust)

3.1.1 Fugitive Dust

The project has the potential to generate dust at levels which can significantly affect the air quality within the project area. However, most of these impacts are expected to be localized and can either be prevented or reduced.

Dust will also be generated from several aspects of construction including:

a) Vehicles transporting aggregates, loading and off-loading of trucks and excavation activities.

b) Construction and operation of support facilities such as material stockpiles area.

c) Debris deposits from vehicles exiting construction zone.

3.1.2 Impacts associated with Fugitive Dust

- Dust generation would be greater during dry periods and will be influenced by construction activities, soil type, moisture content and wind speed.
- Workers and public exposed to prolong dust pollution can develop acute respiratory ailments and eye irritations.
- Dust emissions may also impair the line of sight of workers and road users which increases the possibilities of vehicle accidents and other safety concerns.
- Dust can also be generated from material stockpile as a result of wind, especially during dry conditions.

These impacts are controllable and are expected to be short-termed and localised. When not managed they may present significant impacts.

3.1.3 Mitigation measures to reduce potential impacts associated with Fugitive Dust

The following measures would be implemented to reduce the impact of dust within the project environment:

- Equipment that produces significant quantities of dust to be sited away and downwind from homes and working environments.
- Personnel working within dusty environments (e.g. stockpile area and cement ransom) would be required to use dust masks or respirators or other necessary personal protective equipment (PPE).
- During dry periods, the access route to be monitored for dust particles becoming air-borne while vehicles and equipment are traversing. Periodic soaking will be administered if dust pollution arises.

- Loaded Trucks tray are to be covered when transporting material to minimize dust emission.
- Material stockpile to be kept to a minimum height to reduce wind action on materials. Maximum stockpiling height of 10 feet is recommended for materials susceptible to wind, and maximum stockpiling height of 15 feet for materials impervious to wind.
- All material stockpiles are to be properly covered, prevented any loose material to be carried away from wind or rain.

3.1.4 Exhaust emissions

Construction works will result in combustion emissions from the use of diesel and/or gasoline fired heavy duty equipment. Combustion emissions will be minimal, short-term and localised to the area of the vicinity of construction activities. Emission impacts are also expected to be unavoidable.

3.1.5 Mitigation measures to reduce potential impacts associated with exhaust emissions

- Maintaining construction equipment in accordance with manufacturer's specifications in order to operate at optimal efficiency to reduce excessive emissions.
- Maintenance log for equipment/machinery shall be utilised, documenting all maintenance actions that are performed (See appendix G).
- All equipment and machinery to be turned off once inactive.

3.1.6 Noise

Noise will be generated mainly from the use of fuel powered generators and heavy duty equipment and machinery during construction phase. These impacts are unavoidable and expected to be short-term and localised.

3.1.7 Impacts associated with Noise

Exposure to noise levels above the internationally accepted level of 90 decibels can cause noise induced hearing loss. Noise levels above the tolerable threshold of 72 decibels can result in fatigue, tiredness, low morale and decreased productivity.

3.1.8 Mitigation measures to reduce potential impacts associated with noise

During the construction phase, the Developer will mitigate the potential impacts from noise by:

- Keeping Noise levels within the EPA's established limit of 90 decibels during the day and 75 decibels at night.
- Employing best practices on-site to minimise occupational noise levels and provide noise protection equipment to employees.
- Procuring hearing protection such as ear plugs to employees exposed to high noise levels.
- Efforts will be made to ensure machinery and equipment are working efficiently and have installed the manufacturers required muffler devices where practical.
- Night works will be avoided, to the most practical extent.

3.2 Surface Water

Soil erosion and sedimentation could result from earth works associated with construction activities (such as excavation) adjacent to waterways specifically the Lamaha Canal. Improper disposal of waste (liquid and solid) and mismanagement of fuel/lubricants can also pose threat to existing water body.

3.2.1 Mitigation measures to reduce potential impacts associated with surface water pollution

In order to protect water courses and the quality, the developer shall:

- Locate and properly cover material stock-piles and excavated materials in a designated area, away from water bodies to prevent excessive soil deposits.
- Waste storage stockpiles or stockpiled material shall not be placed within 10m of any watercourse and shall have a toe berm construction around.
- Minimize and contain suspended sediment (i.e., Non-Filterable Residue, NFR) within the immediate zone of construction.
- Undertake appropriate containment measures during concrete pours to ensure that uncured concrete or concrete leachate does not enter any watercourse or drainage. Preventative methods include sediment traps.
- Place pumps and generators on bermed polyethylene sheeting to prevent hydraulic fluid and/or fuel leaks from entering water Bodies.
- Ensure that a perimeter RC drain is constructed in the early stages to collect all run off from the project site.

3.3 Management of liquid and solid waste

The project will generate waste during the construction stage, if not managed properly, can result in soil and water contamination, contribute to ill health, and affect the aesthetic of the area. This plan will ensure that waste generated during construction is handled in a way

The following are some of the materials that can be expected to generate during construction:

- Stripped Vegetation
- Concrete forms
- Dimension lumber
- Packing materials
- Containers for various construction materials (e.g. concrete and steel)
- Pallets
- Plastics
- Waste oil, filters, lubricants and hydraulic fluids
- Concrete
- Food
- Sewage

3.3.1 Impacts associated with the improper disposal of waste

- Waste heap piles often present an eye sore and can affect the aesthetic of any environment.
- The improper disposal of waste, especially food waste can increase the potential of Occupational Safety & Health hazards and also result in unpleasant odours and the attraction of vermin.
- Mismanagement of waste can lead to secondary sources of pollution and contamination of land and water.

3.3.2 Mitigation measures to reduce potential impacts associated with improper waste disposal

- Reduce the amount of waste required to be managed. Therefore, avenues of reusing 'waste' materials will be explored in situ.
- Waste generated will be segregated into organic wastes (vegetation, top-soil); inert waste such as plastics, food boxes, rubber, etc.; and hazardous waste. Inert and hazardous wastes will be stored in covered bins.
- Waste generated at the construction site will be collected and transported to designated Landfill by the Developer. Preferably, Hags Bosch Landfill, East Bank Demerara, given the closer distance among landfills.
- Segregated waste disposal bins will be maintained at ancillary facilities.

3.3.3 Domestic waste

- Burning of waste materials and littering around construction zone will be prohibited.
- Frequent clean-ups will be done by the Developer to ensure work ground is kept tidy.
- Daily housekeeping to be done.
- Bins will be available onsite for storage of waste materials. Domestic Waste will not accumulate for more than 7 days on site. The Developer will transport waste materials to designated Landfill weekly.
- Poorly kept garbage receptacles may harbour pest and even diseases carrying vectors. Developer is advised to do weekly washing of garbage receptacles.

3.3.4 Sanitary waste water/sewage waste

- Suitable number of Portable Toilet will be will be installed at the worksite and will be routinely (weekly) serviced.
- Waste storage area will be located away from water body to prevent secondary entry and possible pollution/contamination.

3.3.5 Construction Waste

- Construction debris and other waste will not accumulate on the construction site for more than 30 days.

- The developer will remove twice weekly to prevent accumulation. The Developer must be cognizant of the fact that storage space on the site is limited and storage of large stockpiles is not ideal.
- The developer will explore all possible avenues for the reuse of construction waste as far as possible.

3.3.6 Concrete Waste

- Fresh concrete or cement will be isolated from any designated watercourse for 48 hours after placement. Containers or trucks carrying cement or fresh concrete will be washed at a site approved by the Supervisor's Representative.
- Concrete waste, including wastewaters from batching or cleaning, will only be disposed of at approved and designated disposal sites. All cement-contaminated wastewater from cleaning or mixing is to be considered toxic, and must be prevented from entering any watercourse for at least 48 hours to allow the water to reach neutral pH.

3.3.7 Cleared Vegetation

- Cleared vegetation and other debris within the construction zone during mobilisation will be stockpiled and later transported to the Designated Landfill by the Developer. The 30-day rule applies here as well.