Pope Properties Guyana Inc

903, 907,908 & 909 Peter's Hall, East Bank Demerara.

Name of Developer: Pope Properties (Guyana) Inc.

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Date: December 08, 2022

Project Overview

Pope Properties Guyana Inc. was inspired by an overseas-based Guyanese family, desirous of aligning with Guyana's development trajectory, specifically the growing demand for housing. It is the intention of Pope Properties Guyana Inc, to develop a high quality, luxurious apartment complex, designed with modern amenities, in keeping with international standards. While the primary goal is to provide medium to long-term, comfortable housing solutions demanded by the oil and gas and supporting sectors, to accommodate expatriates, the apartment complex will welcome all guests from all sectors who desire and can afford comfortable, modern and convenient accommodation.

The apartment building is located in Peter's Hall on the East Bank of Demerara within the gated community commonly known as Republic Gardens. The 3-storey apartment has been designed to accommodate 14 units, comprising three, two and one-bedroom apartments, each outfitted with the most modern amenities inclusive of internet, telephone and cable services.

In keeping with the standards required by Guyana's growing oil and gas sector, Pope Properties Guyana Inc. intends to encourage a positive safety culture among employees at all stages of the project's development (construction and operation), which will transition to residents of the apartment. Therefore, measures will be implemented to ensure that employees, residents, subcontractors and suppliers conduct daily activities in alignment with the Company's health, safety and environmental policy.

The construction of the apartment building commenced in 2019 and was initially estimated to require a capital investment of GY $600,000,000. However, it has now been estimated that approximately GY $900,000,000 will be required to complete the apartment building. This cost is associated with preparation of plans, securing relevant permits, acquisition of construction and electrical materials, labour costs, purchasing and installation of modern furnishing and amenities, utilities, and alternative power sources (solar power and generator).

Pope Properties Apartment will be housed on approximately 20,000 square feet of land, at a height of 14.6 M. Figure 1 below, shows a schematic of the apartment building based on an artist's representation.

Figure 1: Schematic of the apartment building

It is expected that the apartment's construction will be completed by the end of June 2023, if favourable weather prevails.

Vision Statement

To be recognised as Guyana's leading provider of modern, luxurious long-term living accommodation on par with international standards

Mission Statement

To provide globally competitive, comfortable housing to residents in a safe and modern living environment

Core Values

The long-term success of this venture, is dependent on the Company's ability demonstrate the following values, which are at the core of Pope Properties operation:

- **Customer Service**- We are determined to and take pride in providing outstanding and reliable customer support, with the aim of exceeding residents' customer service expectations
- **Integrity**- Management and Staff are committed to honesty, trust and transparency and are accountable for their actions or inactions

- **Quality**- From design through construction and operation, we strive to provide high quality accommodation to residents
- **Professionalism**- Management and Staff are committed to demonstrating and adhering to high ethical standards, which are reflected in the manner in which we interact with residents and service providers

Health, Safety and Environment (HSE) Policy

Pope Properties Guyana Inc. has developed an HSE Policy, which signals the Company's commitment to attaining excellence in environmental performance, and ensuring the health and safety of employees, residents and community members. Further, the HSE Policy is designed to align with local legislation governing health, safety and the environment. While major emphasis will be placed on environment, health, and safety during the construction phase of the project, the daily management of the apartment building will take into account the objectives and commitments laid out in the HSE Policy. It is the belief of management, that having a robust HSE policy framework, will appeal to potential occupants of the apartment, especially those within the oil and gas and supporting sectors.

All individuals employed during the construction and operation of the apartment building, are required to adhere to the policy in execution of their respective duties. The policy will also be publicly displayed so that residents and visitors may be made aware of the Company's HSE commitments.

The HSE Policy will be affected through:

- Complying with national legislation related to health, safety and the environment
- Providing a safe working and living environment through careful identification and control of hazards
- Continually improving operations during all phases of the project, so that adverse environmental impacts and health and safety risks are eliminated
- Ensuring employees are competent to conduct their duties in alignment with the HSE Policy, by providing clear information and appropriate and continuous training
- Providing appropriate personal protective equipment (PPE) to all employees as needed
- Minimising waste generation through implementation of the 3Rs approach-Reducing, Reusing and Recycling, during construction and operation

- Consulting with employees on all matters affecting their health and safety
- Promoting a positive safety culture by encouraging employees and residents to report all observed or potential hazards, incidents and accidents

The HSE Policy will be reviewed annually and revised if needed. All revisions to the HSE Policy will be communicated to employees and residents; and only the most recent version of the policy would be publicly displayed.

Project Description

Site Description

The apartment building is being constructed in an area zoned for residential purposes, which also includes several similar ongoing construction activities. Republic Gardens was only recently developed (2014) and therefore still has unoccupied lots and incomplete structures in many sections of the community.

As it relates to the immediate environs, the apartment building is bounded immediately to the north by an ongoing construction of a 3-storey building; to the south by an empty lot, west by another building construction, and to the east by the main access road which will be the apartment's primary access. Figure 2 below shows a google image of the site, while figures 3 and 4 are photographs of some of the surrounding land uses.

Figure 2: Map showing project location and surrounding land uses

Figure 3: Surrounding land uses to the west and south of the property

Figure 4: Surrounding land uses to north and east of the property

Stormwater runoff from the property will be removed from the site by perimeter drains. This will be channeled into the northeastern, northwestern, southeastern and southwestern discharge points.

Project Design

Design phase

During the design phase of the project, the architectural layout of the apartment was conceptualized and used to prepare a detailed plan for approval. A video of an artist's depiction of the apartment building was also completed. Materials and equipment required for the construction phase were sourced and suppliers and contractors were engaged to support the subsequent phases of the project.

While the requirement for Environmental Authorisation from the Environmental Protection Agency (EPA) and approvals from other regulatory bodies such as the Central Housing and Planning Authority (CH&PA) was not initially known, the Company has applied for all relevant permits, licenses and other approvals. To date, approvals have been obtained from the CH&PA and the Guyana Fire Service (GFS).

Construction Phase

Construction of the apartment building commenced in 2019, shortly after the purchase of the land. The land was first cleared of vegetation and other debris prior to laying the building's foundation. This was followed by the completion of the concrete framework of the building, which entailed the construction and delineation of 3 distinct floors. Next, construction of the roof and decks were completed followed by commencement of internal electrical works. The apartment building is estimated to be 50% completed; work remaining includes installation of windows, the elevator (foundation has already been constructed), tiling, painting and finally casting the concrete yard. The apartment will be outfitted with modern amenities prior to officially opening for business.

When the project was conceptualized, it was estimated that the construction of the apartment building would have been completed by the end of 2021; however, due to some setbacks and given the current trajectory of construction progress, it is estimated that construction will conclude by June 2023, providing favourable conditions prevail.

Operational Phase

Upon completion and commissioning of the apartment, Pope Properties Guyana Inc will begin to receive bookings for occupancy. The Company has already initiated conversation with stakeholders who will most likely require accommodation.

All units in the apartment will include self-contained rooms, along with a "powder room" which will contain a sink and a toilet. The apartments will also be fully furnished and outfitted with the most modern amenities such as cable, internet, wifi, hot and cold water, air-conditioning units, pot fillers (over the stove), microwave ovens, refrigerators and toasters among others. Further, each apartment will contain its own washer/dryer and stove with 20 lbs. propane gas cylinders. A garbage disposal system with a grinder will be placed under the kitchen sink within each unit.

A small gym will be located at the northwestern section of the apartment's ground floor, while a deck for relaxation and recreational purposes will be situated to the northern and southern sections of the apartment's second floor. A conference room will also be available and accessible to residents for the purpose of conducting meetings.

Pope Properties Guyana Inc will also employ house-keeping personnel and receptionists during working hours. In cases of emergency, residents may contact any of the emergency contacts which will be obtained from a list posted in each unit of the apartment.

Utilities

Electricity

The apartment building will benefit from three sources of electricity. The main source of electricity will be provided by the Guyana Power and Light Inc, while a 400kVA automatic switch over Cummings generator will provide electricity in instances of power outages. Additionally, solar energy will be used to power all lighting systems within the apartment building. Solar panels will be housed on the roofs of the northern and southern concrete decks as well as the sheds of the parking lot which will be constructed to the northwestern section of the premises.

Water

The main water supply for the apartment building will be provided by the Guyana Water Incorporated (GWI); however, all water entering each apartment will be treated by a UV water filtration system which will allow water to be purified to a level safe for drinking. Drinking water will be obtained from the refrigerator which will be supplied with water which has undergone UV filtration. In an effort to prepare for water supply disruptions, approximately twenty 450-gallons water tanks will be used to store water. There are no reservoirs on site and the nearest well in the area is in the community of Eccles.

Potential Environmental Impacts & Mitigation Strategies

The environmental impacts associated with the establishment of the apartment are mainly attributed to construction activities. Nevertheless, the implementation of appropriate mitigation strategies will minimise the air, water quality, noise and waste impacts associated with the project. Further, it is anticipated that upon completion of construction, most of the impacts identified will be significantly reduced or eliminated such that allowable discharge limits are not exceeded.

The sections which follow, identify likely project related impacts, and highlight strategies which will be implemented so that the impacts can be avoided and/or mitigated.

Air Quality

The release of fugitive dust emissions from construction activities is the main air quality concern for the project. This will result from the transportation, stockpiling and use of construction materials, particularly sand and cement. During dry and windy conditions, the impacts associated with emissions of particulate matter will be exacerbated, due to the increased volume of wind-blown dust being present in the atmosphere. While dust emissions are unavoidable, this impact will be short term and only last for the duration of the construction activity.

Gaseous emissions, such as products of combustion (carbon dioxide, carbon monoxide, oxides of nitrogen and sulphur dioxide) will also be released from the use of fuel-burning equipment. This includes vehicles such as trucks and canters transporting construction materials; land clearing equipment such as excavators and bulldozers; and ancillary equipment such as generators. Additionally, VOCs may result from the use of paints, aerosols and spillage of fuel.

While it is evident that outdoor air contaminants are the main concern, occupants of the apartment may be exposed to indoor sources of air contaminants resulting from dust accumulating on soft furnishings, emissions from cleaning detergents and exchanges between outdoor and indoor air.

Potential Impacts

Impacts associated with poor air quality will vary in severity based on the type of contaminant, the concentration the receptor is exposed to and the duration and frequency of exposure.

Emissions of particulate matter and combustion products are known to result in illnesses and discomfort of the respiratory system; and irritation of the nose and eyes. Further, during construction, dust from materials such as sand and cement may be deposited on nearby structures as a result of wind erosion.

Exposure to indoor contaminants such as chemicals used in cleaning products may cause headaches, eye, nose and throat irritation. Depending on the duration of stay, and concentration of contaminant released, occupants of the apartment may suffer chronic or acute illnesses due to exposure to poor indoor air quality.

Despite the air quality impacts inherent in the project, air quality mitigation strategies have been and will continue to be implemented throughout the project's lifetime. The impact on air quality will therefore be deemed as low, after mitigation strategies have been implemented.

Mitigation Measures

The proposed mitigation strategies have been developed to preserve the health and well-being of all project stakeholders (employees, residents, neighbours).

Outdoor air quality impacts will be mitigated by implementing the following strategies:

- Wet suppression of stockpiles of sand during construction activities
- Avoiding open mixing of concrete; instead, ready mix concrete will be procured as much as possible and in instances where mixing is done on site, this will be facilitated by a small, concrete mixer
- Regular preventative maintenance of vehicles and equipment used during construction; and the generator used during the operational phase of the project. Maintenance of equipment will be done in accordance with the manufacturer's specifications to minimise the release of soot.
- Constructing the exhaust emission stack of the generator in accordance with good engineering practice stack height.

- Avoiding idling of vehicles and construction equipment
- Minimising VOC emissions by being cautious during refuelling of the generator; regularly inspecting for fuel leaks; and ensuring adequate ventilation when using solvents, aerosols and paints.

Healthy indoor air quality will be maintained through the following:

- Regular maintenance and cleaning of all air conditioning units to ensure adequate air circulation and ventilation
- Regular cleaning and flushing of shower heads to discourage the growth of microbes, mold, or mildew
- As far as possible, environmentally friendly paints and cleaning products, containing little to no solvents will be utilised. When not in use, they will be properly covered, and stored in a well-ventilated storage room, to avoid undue emission of VOCs
- Utilising PVC flooring instead of carpets in each in unit to minimise harbouring of dust particles
- Cleaning of all soft furnishings during house-keeping activities

Water Quality

Impacts to water quality results from the release of contaminants into waterways. This may be a result of accidental or deliberate discharge of sediments (sand and cement), solid waste and chemicals such as fuel and paints. Effluent will also be generated during the operational phase from the use of washroom, laundry and kitchen facilities, as well as compound maintenance activities (washing of yard and apartment building).

Potential Impacts

Direct discharges of untreated effluent into the environment can result in contamination or pollution of waterbodies. Nutrient-rich effluent, i.e., those containing high concentrations of phosphates, can cause eutrophication, which worsens if water is stagnant. Further, the discharge of effluent contaminated with hazardous materials or waste, can disrupt aquatic ecosystems, even those far removed from the project location.

Mitigation Measures

The following strategies will be implemented to minimise deterioration of water quality at the project site and surrounding environment:

- Effluent generation will be minimised in the first instance by implementing water conservation methods such as regularly inspecting faucets, showers, toilets and pipes for leakages, and immediate rectification of the issue where leaks may be detected
- As far as possible, stockpiles of sand will be stored away from waterbodies to prevent sediment runoff into the waterways
- Area near the generator will be suitably enclosed and bunded to prevent storm water from coming into contact with any residual fuel or lubricants
- Effluent generated from bathrooms, kitchen and laundry facilities will be discharged into the septic tank located to the western section of the property. A septic tank with a capacity of approximately 35.4 m^3 (2.7m X 5.7 m X 2.3 m) has been constructed and is situated approximately 4.7 m from the building, which is 3.2 m more than the mandatory 1.5m distance from the building stipulated by the GNBS.

At present, a portable toilet has been rented for use during construction which is emptied on a weekly basis (figure 5).

Figure 5: Portable toilet rented from Cevons Waste Management

Waste Management

The construction and operation of the apartment building will generate both non-hazardous and hazardous wastes. Non-hazardous waste anticipated from the project includes concrete, wood, scrap metal, sand, packaging materials, food boxes, plastic and glass bottles and aluminum cans. Further, when the apartment becomes occupied, organic waste such as left-over food and fruits and vegetable peelings will be generated from the daily activities of residents. Liquid non-hazardous waste, such as used cooking oil may also be generated.

Solid and liquid hazardous waste, originating from construction and operation include end-of-life electrical and electronic equipment, used lead acid batteries and waste oil (fuel and lubricants) produced from servicing and maintenance of construction equipment and the generator.

Potential Impacts

Waste generation from the project, though unavoidable, is influenced by consumption patterns. However, the concerns related to waste management arise when it is inappropriately managed; therefore, posing a threat to human health, the environment and business productivity.

Improper waste management can affect the productivity of plants and soil microorganisms; contaminate ground water and lead to high biological oxygen demand and oxygen depletion in surface water. In addition, poor waste disposal is associated with the proliferation of rodents, flies and other pathogens and can create odour nuisances and cause illnesses such as diarrhoea and vomiting.

Finally, disposal of waste via burning can cause extreme discomfort and respiratory illnesses. Toxic emissions can also be released when waste is burnt. Plastics, for example, release known carcinogens, dioxins and polychlorinated biphenyls (PCBs) when burnt. The impacts resulting from burning waste are especially exacerbated in instances where persons exposed to toxic emissions already have pre-existing respiratory conditions such as asthma and emphysema.

Mitigation Measures

The waste management hierarchy, depicted in figure 6 below, highlights the prevention of waste (i.e., avoiding its generation) as the preferred waste management option while disposal is the least preferred.

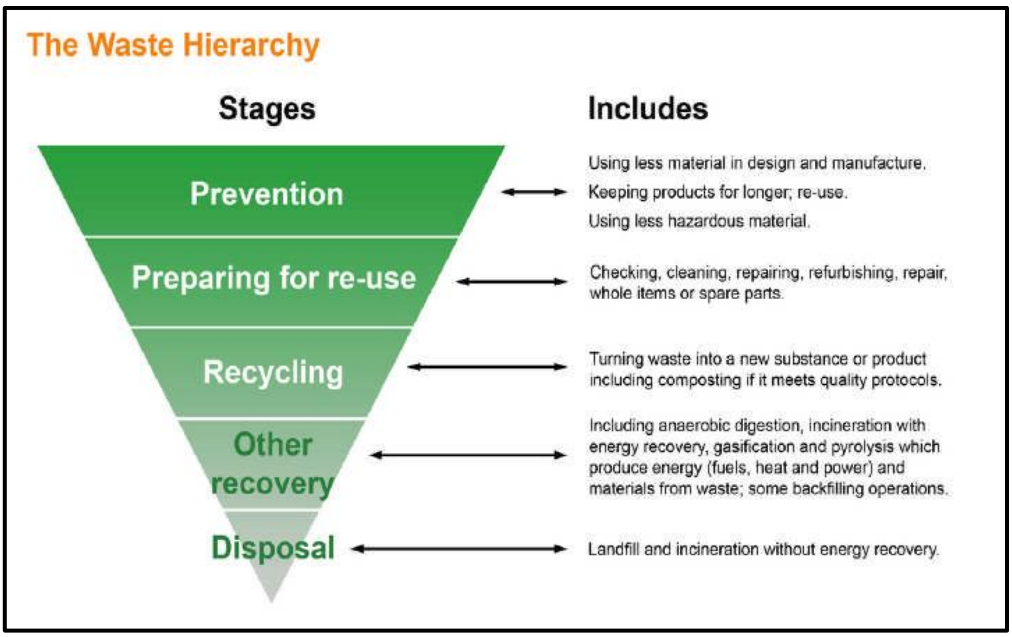

Figure 6: Waste Management Hierarchy

Due to the project being in its construction phase, preventing the generation of waste is unlikely. Therefore, the Company will, as far as possible, reuse and/or recycle waste products. The following mitigation measures are currently being implemented or are scheduled to be implemented during the operational phase:

- **Non-hazardous waste**, specifically food boxes, cans, plastic bottles and packaging materials and organic waste will be disposed of in the receptacle (figure 7), for final disposal to the Haags Bosch Landfill Site. This will be facilitated through the weekly waste collection service provided by Puran Brothers Disposal Inc. In instances where a larger than usual volume of waste is expected to be generated, a skip bin will be rented to facilitate the safe storage and disposal of waste.

Figure 7: Garbage receptacle provided by Puran Brothers Disposal Inc.

- Waste materials such as concrete, wood, sand and stone will be reused for landfilling at the project site. However, formboards and other materials known to promote the proliferation of termites, will be disposed at the landfill
- Residents will be encouraged to store used cooking oil in bacon grease containers for monthly removal by housekeeping attendants. This will be stored in five gallons containers for collection by or drop off to Cevons Waste Management for export and reprocessing
- **Hazardous wastes** such as waste oil will be removed from site by the company responsible for servicing construction equipment and the generator. However, Pope Properties Guyana Inc will ensure that the service provider is managing the waste oil in an environmentally-sound manner
- Used lead acid batteries (ULABs), generated from the maintenance of vehicles, the generator and solar power system; and electronic waste generated from end-of-life electrical and electronic equipment will be sent to scrap metal operators, authorised by the EPA for export and recovery.

Noise

Noise is the term commonly used to refer to loud, unpleasant sounds that cause disturbances. The Guyana National Bureau of Standards (GNBS) has specified allowable limits (in decibels) for noise emissions into the environment during the daytime and nighttime. The standard also specifies limits based on the zoning of an area. Table 1 below outlines the day and nighttime noise limits for residential and construction zones

Table 1: Limits for Noise Emissions into the Environment (Source: GNBS *Guidelines for Noise Emissions into the Environment*)

Categories	Daytime Limits in dB (A)	Nighttime Limits in dB (A)
Residential	75	60
Construction	90	75

During construction, noise will be produced from use of heavy and light duty equipment and will therefore increase sound levels above ambient conditions. Noise will also be emitted from the operation of the Company's 440 kVA generator.

Sound levels were measured during construction activities at the northeastern and southeastern property boundaries and recorded average sound levels of 57.6 dB and 61.8 dB respectively, which are below the daytime limits for both residential and construction zones. The table below summarises the results of the 30 minutes noise assessment conducted at the project site, and the results are graphically depicted in figures 8 and 9. Figures 10 and 11 show the equipment set up during the assessment.

Table 2: Results of noise assessment conducted on November 25, 2022

(*Instrument Details- REED R8080- Serial Number 220106871; Factory Calibration Date- August 31, 2022*)

Location	GPS	Start Time (hrs.)	End Time (hrs.)	Sound Level - dB (A)		
				Maximum	Minimum	Average
Southeastern Boundary	21 N 0371278 UTM 0747444	09:21	09:36	77.2	48.8	61.8
Northeastern Boundary	21 N 0371292 UTM 0747486	09:42	09:57	63.7	51.7	57.6

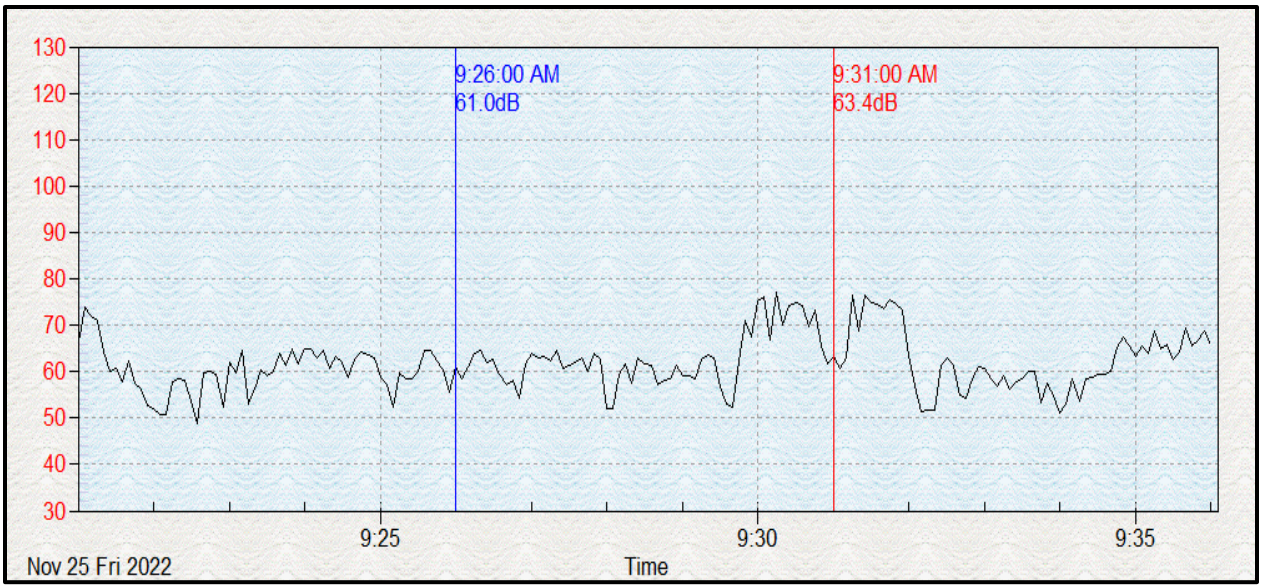

Figure 8: Graphical depiction of sound levels at southeastern property boundary

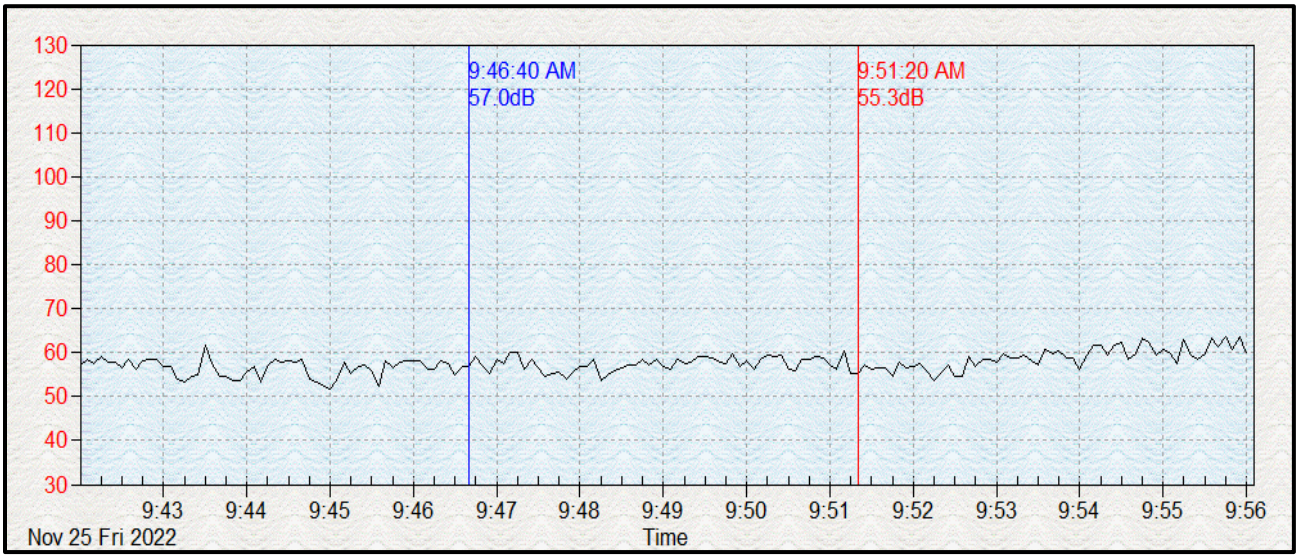

Figure 9: Graphical depiction of sound level at northeastern property Boundary

Fig 10: Noise assessment at southeastern property boundary

Fig 11: Noise assessment at northeastern property boundary

Based on the results of the noise assessment, it is not expected that there will be noise nuisance and complaints from the construction and operation of the apartment building. It is also anticipated

that sound levels will be significantly reduced after construction has been completed. Nevertheless, noise mitigation strategies will continue to be implemented during construction and operation of the apartment building.

Potential Impacts

Impacts associated with noise vary depending on specific characteristics of the receptors such as age, existing health conditions, stress level and time of day. High noise levels can reduce an individual's quality of life, due to the associated physiological effects such as sleep disturbances and decreased concentration. Although animals tend to migrate to other locations when noise levels are elevated, in this instance, this is not anticipated, since the primary noise receptors are the construction workers and community members.

Mitigation Measures

Although minimal noise emissions are expected from the construction of the apartment building, the following strategies will be implemented to ensure sound levels remain within the allowable limits:

- Construction activities will only be conducted during the daytime as specified by GNBS (i.e., 06:00 h-18:00h) Therefore construction will only occur on Monday to Friday from 08:00 hrs to 17:00 hrs and on some Saturdays from 08:00 h to 13:00 h. No construction activities will be conducted on Sundays and holidays.
- The generator will be equipped with silencers, and mufflers and housed in a soundproof enclosure. To ensure optimal functioning, the generator will be serviced regularly and will only be used during periods of power outages.
- Personnel working with noise producing equipment or entering the generator room will be outfitted with suitable ear protection equipment.
- All units in the apartment will be appropriately sound proofed so that sound is not easily transmitted between apartments

Cumulative Impacts

The cumulative environmental impacts within the project area, stems from construction of other buildings. Since the area is still under development, much of the activities ongoing at the project site, is occurring throughout the community. More specifically, cumulative impacts are anticipated from the following activities:

- Air Emissions- Particulate matter and gaseous products of combustion are anticipated from the following:
  - Transportation, stockpiling and use of construction materials for erection of other structures (houses/commercial buildings) in the community
  - Use of heavy-duty equipment and vehicles during construction activities at other locations within the community
  - Use of generators at construction sites or residences

- Effluent Discharge- Release of water which may potentially contain contaminants may result from:
  - Storm water runoff from construction sites which may include sand, sediments and residual hazardous wastes such as paint and fuel
  - Normal household activities among residents such as cleaning and washing of yards, and use of kitchen and bathroom sinks

- Noise Emissions- Increased sound levels in the community are anticipated from:
  - Use of heavy and light duty equipment at other construction sites
  - Operation of generators and other noise-producing equipment at other construction sites or residences
  - Loud music emanating from residences within the community

- Waste Generation- Waste management issues may arise in the community from:
  - Improper disposal of waste, inclusive of burning waste, from residents and other construction sites
  - Failure of waste disposal company to collect waste in a timely manner

As a result of the mitigation measures implemented during the construction and operation of Pope Properties' apartment building, it is not anticipated that this operation will add significantly to cumulative impacts in the community.

Fire Safety & Emergency Response

As part of the drive towards providing exceptional service to residents, the Company has implemented measures to ensure residents are accommodated safely and securely. As such, approval was obtained from the Guyana Fire Service (GFS) which stipulates fire safety mechanisms required for the apartment building, and specific floors. This includes the provision of firefighting equipment such as fire extinguishers, smoke detectors, fire escapes and suitable emergency exits. A fire extinguisher selection chart, similar to the one outlined in figure 12, will be consulted to aid in selecting the most appropriate type of fire extinguisher, based on the specific type of fire likely to occur.

Figure 12: Fire Extinguisher Selection Chart (*Source: https://dailyhomesafety.com/types-of-fire-extinguishers/*)

An emergency evacuation plan has been prepared and will be posted at a strategic location in each unit, and in public areas of the apartment building. Residents will be made aware of the evacuation plan which needs to be followed in the event of an emergency. A fire escape has also been located at the northwestern section of the building (figure 13) and there are two exits on each floor. Muster points will be situated near the western and eastern parking lots and will be marked with appropriate signage.

Figure 13: Fire escape at the northwestern section of the apartment building

As it relates to security, the apartment will be equipped with armed security, as well as electronic mechanisms such as motion sensor lights and security cameras.

Socio-economic Impacts

The establishment of the apartment building will make a positive contribution to Guyana's economic sector, through the provision of direct and indirect employment during the construction and operational phases of the project. During the construction phase, approximately 20 jobs will be directly created, while 5 persons will be employed during the apartment's operation. In addition,

indirect employment will be created through the purchase of goods and services from suppliers and subcontractors.

The Company will also contribute to activities geared towards the enhancement of the community, such as clean up campaigns and the repair and maintenance of the roadways.

The establishment of this apartment will no doubt make a positive contribution to Guyana's housing sector within which there is a growing demand for housing. Finally, the establishment of the apartment with modern amenities, will create a positive economic impact, through fiscal incentives such as payment of taxes.