

Starlite Hotel- Project Summary



Project Name: Starlite Hotel

Address: 17 D'Edward Village, Berbice

Name of Developer: Mr. Ganesh Jagdesh

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Project Overview

Starlite Hotel, located in the busy, mixed commercial/residential zone of D'Edward Village was established in December 2022, initially as a hotel and bar. At present, the business only provides hotel accommodation services since the bar is no longer operational. With a staff complement of only 3 persons, working on a shift system, this 16-room hotel provides a safe and comfortable stay for persons both locally and further afield. The Company's vision, mission and HSE policy provide the driving force behind the operation of this customer-oriented hotel.

A capital investment of GY \$45,000,000 was made in the establishment of the hotel on a single floor, made possible by the completion of an existing structure, above a commercial entity. The investment cost accounted for materials and labour for construction, and the provision of furnishing and linens for each room in the hotel.

Although the land owned by the proprietors covers an area of ~ 3, 264 m², the hotel building occupies a total area of ~500 m², and stands at a height of ~7.3 m.

Vision Statement

To provide exceptional service to all guests, while assuring a comfortable, safe and relaxing stay

Mission Statement

Our Mission is to become one of the leading hotels in the Berbice area, by providing cultural experiences, which exceed guests' expectations.

Health, Safety and Environment (HSE) Policy

The Management of Starlite Hotel recognises that to achieve the Company's vision and mission, health, safety and the environment, must be at the core of its operation. As such, although there is a relatively low risk of a safety, health or environmental incidents occurring, the following is implemented as part of the Company's commitment to ensuring guests' safety:

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- ✓ Consideration of health, safety and environmental practices in every area of operation
- ✓ Compliance with national health, safety and environmental laws, policies and guidelines
- ✓ Prompt identification and control of hazards to enable a safe working environment.
- ✓ Minimisation of energy use through partial reliance on solar power for outdoor lighting
- ✓ Making employees aware of the Company's health, safety and environmental obligations

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Project Description

Site Description

Starlite Hotel is located in the village of D'Edward, Berbice, an area appropriately zoned for this establishment. The hotel is situated near the public road, in a mixed zone with buildings serving both residential and commercial purposes such as supermarkets, restaurants, electronics stores and several small snackettes.

The google imagery, presented in figure 1, highlights the location of the hotel.



Figure 1: Google imagery of hotel and surrounding buildings

The public road is situated to the north of the hotel which serves as the hotel's only entrance, after which a large two-story building, with a residential dwelling on the upper flat and an electronics store on the lower flat is located. An empty lot, owned by the proprietors, is situated to the south of the hotel. The hotel is bounded to the west by a restaurant and residential dwelling and to the east by a residential building.

The Berbice River is located approximately 600 m from the hotel.

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There are no internal drains on site, since stormwater and gray water are captured by a series of interconnected PVC pipes (figure 2). This includes discharges from rainwater, water from kitchen pipes and the laundry rooms. The pipe extends 100 feet south, into a drain situated on the empty lot (approximately 2 feet from the fence), which was dug by the landowner.



Figure 2: Pipes extending from hotel to drain in empty lot south of the hotel

Project Design

The project is currently in its operational phase. The upper flat of the building was converted from a four-walled structure (with incomplete internal construction) to a hotel, resulting in a two-story mixed-use building with the hotel occupying the upper floor.

The internal construction of the hotel commenced in 2021, and was completed in December 2022, after which the hotel officially opened its doors for business. Management subsequently became aware of the requirement to be permitted by the EPA, GTA and other relevant sector Agencies, and therefore applied for the relevant approvals.

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Hotel Operation

Starlite Hotel operates on a 24-hours basis, with the implementation of an 8-hours shift system (06:00-14:00h; 14:00-22:00h; 22:00 -06:00 h). This enables personnel to always be present to facilitate check-ins which may occur outside of the usual allotted time, and for other amenities which the guests may require. The time allotted for check in is 10:00 h, while checkout is expected to be completed by 12:00 h the following day. Each guest is issued with a key, while an extra copy remains with the receptionist.

Daily house-keeping services are provided, to ensure bedrooms and other areas such as storage rooms, remain clean and aesthetically pleasing (figure 3). The employee present during the 06:00 h to 14:00 h shift is primarily responsible for daily housekeeping.



Figure 3: A section of one room after housekeeping.

Each room contains an electric fan or an air conditioning unit, depending on its location. Rooms on the eastern side of the hotel contains fans and ventilation is aided by windows which are opened periodically. On the other hand, rooms on the western side of the hotel are completely sealed and therefore rely on air conditioning and fans for cooling. Some rooms also contain irons while hair dryers are made available on request. The use of natural ventilation and cooling, as well as the minimal electrical appliances provided in the rooms, both serve as means of

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conserving energy as part of Starlite Hotel's drive towards sustainable energy usage. Additionally, water is stored and made available throughout the hotel without the use of a pressure pump.

Each bedroom contains a sink, bathroom and toilet, while the former bar area contains 2 toilets and sink combination.

Utilities

Electricity

The hotel is powered strictly by the electricity provided by the Guyana Power and Light Incorporated. No generators are onsite, nor are they expected to be used as part of the Hotel's operation. Solar lights and fans provide lighting and cooling in rooms during periods of power outages (figure 4). Additionally, permanent solar lights provide illumination to the western passageway in the yard (figure 5).



Figure 4: Solar fan in guest room

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Figure 5: Solar light used to provide external lighting

Water

The hotel's water supply originates from the Guyana Water Incorporated (GWI). Water storage is practiced at the Hotel, with the storage of more than 3000 gallons of water facilitated by seven 450 gallons tanks. This ensures a reliable supply of water during service interruptions. While most guests purchase their own water for drinking purposes, a 5 gallons bottle of water is available in the kitchen area for guests' use if needed.

Potential Environmental Impacts & Mitigation Strategies

The major impacts associated with this project would have resulted primarily from the construction phase. Since the project is in operation, and only provides accommodation without meal preparations or bar activities, and there is no music or operation of any other sound making

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devices such as generators, the impacts associated with the hotel's operation are minor and mainly surrounds potential waste and effluent generation.

The subsequent sections address the potential impacts of the hotel's operation with a strong focus on the mitigation strategies implemented, to minimise the impacts associated with effluent discharges and waste generation.

Air Quality

The air quality impacts associated with the hotel's current state of operation are expected to be minimal, and mainly associated with indoor air quality. Generally, indoor air quality concerns at hotels arise from materials used in carpeting and soft furnishings, use of chemicals for cleaning especially in poorly ventilated areas, and mold which may result from elevated moisture levels in rooms and other areas of the hotel. Further, if repainting is done in specific parts of the hotel, the release of volatile organic compounds is possible.

The health impacts anticipated from the hotel in its current state, is dependent on the type of contaminant released, its concentration, duration and exposure frequency. Moderate to severe exposure to air contaminants generally results in irritation of the respiratory system, eyes and nose. Although potentially serious health conditions can result from exposure to air contaminants at hotels, this is unlikely to occur due to the low-risk activities which occur at Starlite Hotel. This includes the fact that there are no construction activities occurring, and no generators are utilised as part of the operation at the hotel.

Mitigation Measures

While the risk of air pollution resulting from the hotel's operation is minimal, several actions continue to be taken to avoid or minimise the release of air contaminants. These generally require maintenance of a comfortable indoor temperature, devoid of irritants, mold, mildew and other contaminants.

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As part of the mitigation strategy, regular cleaning and maintenance of all AC units are conducted to ensure adequate air circulation and ventilation. Vents of the units are cleaned daily in rooms that are occupied, while maintenance of all units is conducted monthly. Rooms are also cleaned daily to avoid the buildup of mold or mildew. Management has also taken a decision to avoid the use of carpets which can harbour skin irritants, and therefore the floors of all rooms are tiled. Finally, smoking is prohibited in the hotel. This is communicated to guests via appropriate signage (figure 6).



Figure 6: "No Smoking" signage present in hotel

Water Quality

The discharge of untreated effluent into the environment can result in contamination of waterways, especially those containing phosphate-based cleaning agents and fuel. In extreme cases, especially in stagnant water, the discharge of effluent with high phosphate content can result in severe cases of eutrophication. This, along with the discharge of fuel-contaminated effluent can result in disruption to aquatic life, denoted in some cases by fish kills and increased mal odour. In this case however, effluent will be discharged daily from rainwater collection gutters, and from the use of washroom and laundry facilities only. Although a kitchen exists, it is not operational, and therefore no effluent discharge from this source is currently expected.

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Mitigation Measures

The water mitigation strategies will entail measures geared towards water conservation and will therefore include the frequent inspections of faucets as part of the daily house-keeping routine. As such, any leaks will be quickly detected and remedied. Rooms will also be inspected as part of the check-out process to ensure faucets do are not left on. Additionally, a system of interconnected pipes has been designed to capture all effluent discharges and channel them into the desired discharge point. Discharges from the washrooms are channeled into pipes which run along the western side of the hotel, and then enter the septic tank (figure 7). The septic tank has an approximate capacity of 31.7 cubic meters and is situated to the south of the hotel.



Figure 7: Septic tank situated south of the hotel

There are no internal drains at the hotel. Stormwater is channeled along with water from the laundry room into a single pipe which exits south of the hotel via a 100ft pipe. The water is discharged into a drain dug on the land owned by the Hotel's proprietor.

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Waste Management

It is estimated that a hotel produces an average of 1kg of waste per guest per night; however, this average quantity represents the combined figure for both high and lower occupancy hotels. Therefore, the waste generation rate will be proportional to hotel occupancy. The average daily occupancy rate currently is 2 persons per night and may be described as a slow period. During peak season, especially during regional events, occupancy rate may increase by as much as 12 persons per night. Using the estimate of waste generation, the hotel is likely to generate between 2 kg and 12 kg of waste per night, which when extrapolated can amount to an average of approximately 2300 kg per annum.

The primary waste stream generated is municipal or domestic waste comprising glass and plastic bottles, aluminum cans, food boxes, packaging etc. Hazardous waste generation is of low likelihood and may only be present in the form of empty bleach containers and end of life/ waste electrical and electronic equipment (WEEE) discarded by the hotel.

While the generation of waste is a necessary consequence of development, the concern about waste is related to its management. Wastes, when poorly managed, poses a threat to human health, environmental quality, and places a burden on businesses. The effects of poor waste disposal can be observed in the three key environmental media, i.e. air (when waste is burned), water and soil as a result of runoff or direct dumping of waste onto these media. In some cases, soil contaminants can percolate through layers of soil and enter ground water thereby affecting drinking water supply. Further, discharges of waste into surface water can reduce dissolved oxygen concentrations and disrupt aquatic ecosystems.

The main impact of poor solid waste management, likely to result from the project if measures are not taken to control it, is the proliferation of rodents and other pathogens, mal odour and generally unpleasant aesthetics. However, proper waste management practices are implemented at the hotel and therefore these potential impacts do not occur.

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Mitigation Measures

Since only nonhazardous wastes are likely to be generated from the hotel, the primary mitigation measures involve proper storage and disposal of wastes generated by guests. Therefore, waste receptacles are placed in each room and at other strategic locations throughout the hotel. As part of the daily house-keeping routine, waste receptacles are emptied and the garbage is placed into a larger bin which is emptied twice weekly (Tuesdays and Thursdays) by the NDC, at a cost of \$500 per barrel, whether at or below capacity.

Noise

Noise may be defined as an undesirable sound which is disturbing or annoying to an individual. The impacts which may result from exposure to noise are dependent on the sensitivity of the receptor, and may vary according to age, pre-existing health conditions and the time of day. High noise levels may cause physiological effects such as sleep disturbances and reduced concentrations, generally diminishing quality of life.

The Guyana National Bureau of Standards (GNBS) specifies the allowable daytime and nighttime sound levels for specific zones (e.g., residential, commercial, industrial). The table below highlights the GNBS limits for areas with residential and commercial land uses.

Table 1: Guyana National Bureau of Standards (GNBS) Residential and Commercial Noise Limits
(Source: GNBS Guidelines for Noise Emissions into the Environment)

| Categories | Daytime Limits in dB (A) | Nighttime Limits in dB (A) |
|-------------|--------------------------|----------------------------|
| Residential | 75 | 60 |
| Commercial | 80 | 65 |

Noise emissions from operation of an already constructed hotel are likely to result from sound-making devices used in restaurants and bars; or from generators utilised during power outages. Air conditioning units are also known to produce some noise, particularly if they are old and not serviced properly and may be as high as 55 dB. The compressor is the main noise producing component of the unit, with higher noise levels being heard from the external unit.

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Since the bar of the hotel is no longer operational and the hotel does not use generators as an alternative energy source, the primary source of noise will result from the operation of the AC units.

Noise Assessment

The hotel is situated in a mixed-use zone (commercial and residential), south of a busy public road. A noise assessment was conducted for approximately one hour which recorded an average sound level of 65.6 dB. This level was lower than the daytime residential and commercial limits as outlined in table 1 above. The maximum and minimum noise level measured 79dB and 51.9 dB respectively. The maximum noise level exceeded the daytime noise limits for a residential area but was still lower than the daytime commercial limits. The exceedance in the daytime residential limit was attributed to loud music emanating from the vehicle of a customer who stopped to conduct business at the supermarket. The figure below graphically depicts the results of the noise assessment.

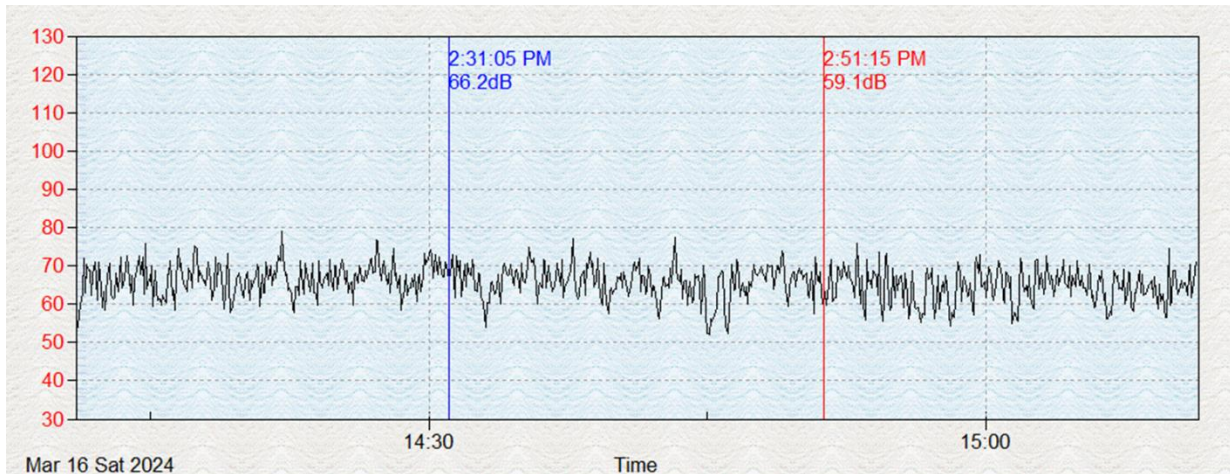


Figure 8: Graphical Representation of Noise Assessment Results

The hotel's operation will therefore not result in sound levels above what is experienced by residents and other stakeholders in the vicinity of the hotel.

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Mitigation Measures

The primary mitigation measures implemented to address noise is the regular servicing and maintenance of the AC units. Although not a major source of noise currently, the regular servicing is done to prevent the creation of a noise problem. Additionally, the AC units have been mounted on stable surfaces to prevent unwarranted vibration.

At present, there are no additional mitigation measures required to be implemented by the proprietors of Starlite Hotel, since there are no noise producing activities which would cause the allowable sound level for the area to be exceeded. Most noise currently produced in the area originates from vehicular traffic on the public road, north of the hotel and from patrons who sometimes congregate at the supermarket, playing loud music from their vehicles.

Fire Safety & Emergency Response

Each room has a smoke detector system installed. However, fire extinguishers are placed strategically. The hotel is equipped with 6 fire extinguishers placed at marked locations throughout the hotel. The extinguishers will be serviced annually, to ensure they are operable, and can be used in event of a fire emergency. In addition, sand buckets are available at some fire points (figure 9).



Figure 9: Fire extinguisher and sand bucket at one fire point

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There are 2 fire escapes, one to the south and another to the northwestern section of the hotel (figure 10). Several exit signs are present throughout the hotel, so that guests can easily find the fire escape and evacuate the hotel in the event of an emergency.



Figure 10: Northwestern fire escape

The hotel is equipped with a first aid kit (figure 11) to treat very minor medical emergencies such as cuts, bruises and scratches. Therefore, if more urgent medical attention is required, injured persons will be taken to the Fort Wellington Hospital via use of personal vehicles, or the hospital's or GUYSUCO estate's ambulance.

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Socio-economic Benefits

At present, the hotel provides economic benefits through the employment of three persons. Future expansion of the hotel and the operation of the kitchen and bar facilities can result in increased employment. While the direct economic benefits may be considered minimal, more indirect economic benefits result because of the hotel's existence. This includes payments related to permits, taxes, and suppliers of water, linens and toiletries to the hotel.