

9.0 Mitigation Strategy and Environmental Management Plan

This Section outlines details for an Environmental Management and Monitoring Plan for the Kilgwyn wetland and mangrove system post construction of a 500-room hotel resort on 18.7258 hectares of privately held lands in the Tyson Hall area, Tobago.

An Environmental Management Plan (EMP) is an important tool which can be used to assist operations managers in meeting current and future environmental requirements and challenges. EMP consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels (World Bank, 1999). It can be used to measure a company's operations against environmental performance indicators, thereby helping the company to reach its environmental targets.

A good EMP will integrate environmental management into a company's daily operations, long-term planning and other quality assurance systems.

It is therefore recommended that several parameters be monitored before, during and after the hotel project implementation to record any negative construction and operational impacts and to propose corrective or mitigation measures.

The subsequent Parts below will address:

Sediment and Erosion/Turbidity Management Plan

Stormwater Management Plan

Coastal Zone Management Plan (CZMP)

Water Quality Management Plan (WQMP)

Air Quality Management Plan

Waste Management Plan

Wetlands Management Plan

Boardwalk Construction Mitigation and Management Plan

Operation and Maintenance Plan
Grievance Redress Plan (GRP)
Emergency Management and Emergency Response Plan
Other Mitigation Strategies

9.1. Sediment and Erosion/Turbidity Management Plan

To monitor the potential sediment impact from construction activities on the terrestrial-mangrove swamp environment, sediment traps will be deployed in close proximity to three of the water monitoring sites; KTW4, KTW3 and KTW6 (Refer to **Section 5.0 – Description of the Environment**) all three being nearby storm water outfall points and near work areas for main construction activities (**Figure 129 - 9.1**). A total of no less than three (3) sediment traps will be deployed. The sediment traps will be retrieved on a monthly basis, its contents analysed and redeployed to determine the rate of sedimentation (mg/cm²/day) and dispersal patterns over the area. The sediment trap dimensions will be approximately 10” deep with an internal diameter of 3”. The traps will be installed by OptimalGESL. Traps will be taken to the Kaizen Environmental Trinidad Limited laboratories for analysis.

The contents of the sediment traps will be filtered through a filter paper, dried and then weighed. The results will be represented in the form of mass of sediment recovered. Using the results retrieved from the laboratory, the unit mass of sediment dispersed per day will be calculated by dividing the mass of sediment recovered by the number of days deployed and the area of the sediment trap opening. Onsite observations will also be included where possible.

Further erosion mitigations;

- The engineering design must incorporate measures for slope stabilization and reinforcement to prevent slope failure on steep slope



Figure 129 - 9.1: Sediment Outfall Traps Locations with Baseline Survey Sample Locations and Proposed Hotel Development Areas.

9.2. Stormwater Management Plan

The proposed drainage plan allows rainfall runoff to drain freely into the mangrove via outfall points. All the outfall points will be set at an elevation higher than the projected flood elevation for the 1 in 50-year storm, with consideration for climate change. The use of multiple outfall points proved advantageous as it works better for a flat site and reduces the amount of grading required, while resulting in smaller drain sizes. These drainage outfalls will be controlled by hydraulic structures consisting of outfall pipes with flap gates to prevent back flow of water into the site when water levels in the mangrove exceeds the 50-year design flood level. All internal drains will be primarily buried pipes and covered box drain with catch pits to keep in accordance with the architect's finish concept. All such drains and outfall pipes were designed for a 1 in 25-year storm frequency.

The construction drainage plan will be developed to control the discharge of oil/lubricants, sediment and debris into the mangrove areas. Such plans will consist of:

- Site grading
- Sediment retention basins and other measures for minimizing the transport of sediment
 - A sediment basin should also be constructed onsite at a staging area in order to intercept storm water before it is discharged to the mangroves. Typical EPA best management principles recommend the ponds be sized to hold the first flush which equates to 0.25 inches of runoff per impervious acre of contributing drainage area, with an absolute minimum of 0.1 inches per impervious acre.

The project site will put in sediment control measures such as turbidity silt captures; outfall pipes will be encased within a catch pit that contains a 500mm deep sump strategically located to trap sediments prior to discharging into the mangrove. Also silt barriers should be erected around the entire work area to prevent the dispersion of sediments and contaminants throughout the water column.

- A central area will be designated for the storage of raw materials. This area should be lined in order to prevent the leakage of chemicals into the sediment.
- Fine grained materials (sand, marl, etc.) will be stockpiled away from drainage channels and low berms will be placed around the piles which themselves will be covered with tarpaulin to prevent them from being eroded and washed away. Silt fences may also be utilized to prevent siltation
- Raw materials that generate dust should be covered or wetted frequently to prevent them from becoming air or waterborne
- Raw material and equipment should be stored on impermeable hard stands surrounded by berms to contain any accidental surface runoff
- In terms of transporting equipment, the paths of the planned roadways will be used, rather than creating temporary pathways just for equipment access
- Raw materials such as marl and sand should be adequately covered within the trucks to prevent any escaping into the air and along the roadway

9.3. Coastal Zone Management Plan (CZMP)

The proposed development activities will have minimal to no effect on the coastal zone. However, in the interest of managing the natural habitat, it is recommended to ALG and DSM to undertake beach profile analysis every two years to further understand the climate change impacts on the existing coastline environment.

The drainage plans discussed in Parts 9.1 and 9.2 will also mitigate any spill over impacts that the hotel construction and subsequent operations may have on the existing coastline environment.

9.4 Water Quality Management Plan (WQMP)

This part provides the details for managing all wastewater and potentially contaminated stormwater runoff that may emanate from the hotel development and subsequent operations.

9.4.1 Methodology

Following USEPA standards and Best Management Practices; temperature, pH, salinity, conductivity, dissolved oxygen, turbidity, total dissolved solids, nitrate and phosphate and TPH will be measured in situ using a calibrated DataSonde multiprobe and laboratory analysis at the mangrove survey/monitoring locations as per established EIA baseline sampling locations. The latter will be for both the terrestrial and nearshore marine environment for 4 phased periods;

1. Pre-construction (to serve as a baseline data from OptimalGESL, 2022)
2. Monthly in the first instance during the first year of Construction
3. Monthly in the first instance during the first two years of Operations
4. Quarterly after 2 years of Operations

Samples will follow all sampling protocols, storage and custody transfer methodologies adopted for the baseline EIA according to USEPA standards.

Samples will be shipped to accredited laboratories; BV Labs, Canada and Kaizen Environmental Labs, Canada for sample analysis. Due to sample holding time restrictions for laboratory testing for *Enterococci and fecal coliform*, these will be done locally at Ecotox Environmental Services Ltd., laboratories, Trinidad.

9.4.2 Monitoring Deliverables

The results of the data collected will be compared with Environmental Management Authority Water Pollution Rules 2019, water quality standards.

The following deliverables should be provided to FCL/client for review:

A report which includes sample dates, assumptions, method statements, calculations, quantitative data on parameters sampled, quality assurance information, personnel certification and conclusions. These reports should have the following format:

- Executive Summary
- Table of Contents
- Introduction
- Methodology (sampling dates, times and assumptions)
- Results
- Review of Results
- Conclusions
- Recommendations
- References
- Appendices

9.4.3 Mitigation Strategies

Site and Operational plans will be developed to control the discharge of equipment oil/lubricants, waste water and debris into the mangrove areas. Such plans will consist of:

- Annual waste water pipeline integrity surveys to follow the Annual Maintenance Plan for the Hotel to avoid spillage or leaks.
- Bulk storage of fuels and oils should be in clearly marked containers (tanks/drums etc.) indicating the type and quantity being stored. In addition, these containers should be surrounded by bunds to contain the volume being stored in case of accidental spillage.
- Appropriate minor spill response equipment (for containment and clean-up) will be kept on site, including oil absorbent pads and disposal bags.
- Vehicle refueling facilities must be situated on impermeable surfaces served by an oil trap, run-off collection system. Sediment basins and oil water separators should be constructed to intercept storm water before it is discharged.
- ALG Emergency response plan to include spills and leaks

9.5 Coral and Nearshore Fauna Management Plan

The Coral Management Plan will include a combination of coral monitoring exercises, water quality monitoring and sediment dispersal monitoring from the eastern sluice canal, during and after construction. The activities will be conducted by qualified and trained marine scientists and SCUBA divers.

9.5.1 Coral and Nearshore Fauna Monitoring using Photo-transects

Two (2) monitoring sites will be selected within the Kilgwyn Bay Reef: One being in shallow water (4 – 6feet) and the other in deep water (10 – 15 feet). Each sample site will have one 100 metres-long transect. The start point of each line will be marked using a GPS and a permanent stake where possible. Compass bearing and depth will also be recorded at the start of each transect. Along each 100m transect line, photos

will be taken every 5 meters using a 1 m² quadrat, thus totaling 20 photos per transect. A total of 20 m² will be assessed for each transect.

Data collected will include but not limited to the following:

1. Percentage Coral Cover;

- Live coral
- Recently killed coral
- Dead coral
- Diseased or bleached coral
- Other marine Fauna and Flora

2. Percentage Algae Cover

Where possible Algae will be identified and categorized (fleshy, calcareous and cyanobacteria).

3. General Substrate Composition

The substrate type will also be identified (sand, pavement, rock etc.)

Any rare, endangered, commercially important (lobster and conch) and invasive organisms observed will also be noted and photographed, as well as the presence/absence of seagrasses. Any obvious sedimentation, anchor damage, marine debris and other direct impacts will also be recorded.

Report will be compiled and submitted to ALG and DSM for review and onward submission to EMA.

9.6 Air Quality and Noise Monitoring Management Plan

Impact to the Air Quality and increased noise will be of greater magnitude during the construction phase of the hotel development project mostly related to emissions from diesel engines, chemical storage and dust emissions.

9.6.1 Mitigation

- Maintain engines to manufacturer's recommendations to reduce the emission of combustion gases such as SO₂, NO₂ and CO, and to ensure complete combustion. and limit idling time
- The use of spark arrestors to reduce emission of carbon particles from diesel engines
- Manage stockpiles by using water sprays and dust suppression surfactants (as required)
- Limit size of stockpiles
- Speeds limits will be applicable on-site roads to prevent clouds of dust
- Fully covered and secured backfill load with tarpaulin
- Maintaining a vegetation barrier between the land and the sea
- Reduce construction (use of heavy equipment) and operations at night
- No Nocturnal Mangrove Boardwalk Tourist Tours

ALG and DSM will ensure through its contractor management process that all contractor vehicles are maintained so as to minimize emissions to as low as reasonably practicable contractor vehicles are maintained so as to minimize emissions to as low as reasonably practicable.

9.6.2 Monitoring

It is recommended that Air and Noise monitoring be undertaken for a 2-day period during the construction and operational phases of the hotel development. The scope,

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methodology, analysis and reporting will follow that which was undertaken for this EIA (Refer to **Section 5.0 – Description of the Environment**)

9.7 Waste Management Plan

All waste generated during all phases of the Project will be managed by ALG's Waste Management Plan (WMP). As part of ALG's commitment to achieving high environmental standards, ALG has developed this WMP to successfully and effectively handle, treat and dispose of waste in accordance with all applicable laws, regulations and industry standards, both locally and internationally. The WMP incorporates means of identifying, characterizing and monitoring the quantity and types of waste generated, efficient means of waste collection and storage, reuse and recycling of waste if possible, waste processing and treatment methods developed and implemented, and other responsible disposable options available.

9.7.1 Transportable Offsite Waste Management

ALG will keep a Project Waste Inventory detailing what wastes are generated by the Hotel Development Project and subsequent Operations under the purview of the Project Environmental Advisor/Coordinator. Waste is considered hazardous if it exhibits one or more of the following characteristics: ignitability, corrosivity, reactivity or toxicity.

All wastes that cannot be recycled or reused onsite shall be disposed in a hazardous waste Treatment/Storage/Disposal Facility (TSD). Prior to issuance of contracts for the disposal of wastes, the HSSE Department of ALG shall ensure that the contractor is suitably qualified and the TSD is in compliance with all applicable laws, regulations and industry standards. Additionally, the TSD shall be inspected and certified for such use by the EMA. ALG HSSE Department and Environmental Advisor will visit the TSD prior to finalizing the Contract for Disposal to ensure that the facility has the requirements and the infrastructure to properly treat and dispose the waste.

All waste shipped offsite must be containerized in a manner that meets all applicable packaging, labelling and marking requirements for the specific waste material.

9.7.2 Solid Waste Management (SWM)

It is anticipated that a substantial amount of mixed waste will be generated by the Hotel during its' operations. In the case, it is recommended that the hotel sort their waste, two types: mixed waste (collected by the municipality) and recyclable waste such as paper, cardboard, plastics, metals, and glass, which are collected by private companies and informal collectors (**Figure 130 - 9.2**). The later also has a wider impact on national solid waste management and generation of employment.

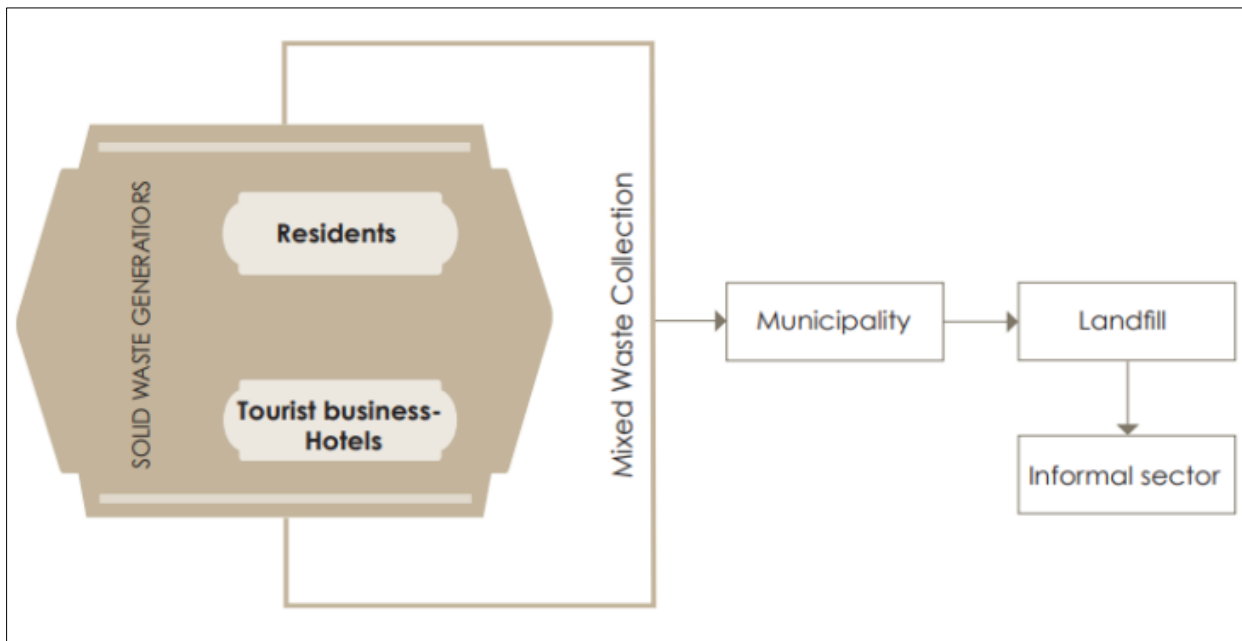


Figure 130 - 9.2: Mixed Waste Generation in Hotels and Solid Waste Management Plan. Adopted from the Tunisia Hotel Waste Management Model, after Chaabane et al., 2018.

9.7.3 Waste Water Treatment Management Plan

USEPA Waste Water Standards and EMA WPR 2019 must be met before waste water discharge back into the environment or to be used for irrigation. A permit and license for waste water treatment and discharge must apply. Monitoring of effluent discharge must be conducted during the operation of the facility. The frequency of this sampling and testing will have to be agreed with the EMA and hotel developers.

The treated water from these activities can be used to irrigate the lawns and gardens.

9.8 Wetlands Management Plan

9.8.1 Continued Mangrove Wetland Assessment

The works related to Mangrove Wetland Assessment include sampling of the natural vegetation, the generation of a site-specific species list, and the description of floral distribution patterns, population densities and mangrove health status. The objectives of the mangrove wetland system assessment are to:

- Assess and report on the status of the Mangrove system. This includes the health status of flora and fauna within the area as well as
- Identify impacts and notable changes to the wetland system resulting from the daily operations of the hotel.
- Recommend migratory measure to reduce impacts to the wetland system if deemed necessary.

To achieve these objectives the following should be carried out:

- Conduct a literature review of all existing information on the wetland including historical data collated by IMA and OptimalGESL for the study area.
- Conduct reconnaissance site visits to identify the 5 monitoring stations previously surveyed by OptimalGESL in baseline studies.
- Evaluate the ecological status and health of the floral communities within the wetland system as well as a qualitatively review of the hydrology of the study area.
- Perform a comparative assessment to historical data previously collected for the study area.

9.8.2 Mangrove Wetland Assessment Methodology

The activities outlined in this methodology have been designed to achieve the goals and objectives stated above. The activities should provide a comprehensive understanding of the ecology within the study area, as well as past and present activities, which may have influenced the health of the wetland system.

9.9 Background Review

The literature review would seek to understand the status of information presently available on wetland ecology in Tobago as well as the localised ecology of the study area from both published and unpublished sources. This would be achieved through the following:

- An examination of maps, aerial photographs and reports that characterize the hydrology and physical attributes of the area.
- An examination of all literature that pertains to wetland ecology of Southwest Tobago and especially within the designated study area.
- An assessment of previous research, or work done within the Kilgwyn and surrounding areas, with relevance to the ecology of the study area. These will include studies on the hydrology and general ecology previously conducted by BCSL. The data collated will be used for a comparative assessment of results obtained from real time field surveys.

9.9.1 Reconnaissance Visits

These would be conducted to identify the preferred sampling locations. During this visit wetland accessibility and points of entry into the mangrove forest will be located.

9.9.2 Collection and Analyses of Field Data

The proposed times for the four mangrove field surveys are twice annually (i.e. once in the Dry season and once in the Wet season). A suggestion of (5) five sample plots with dimension of 10m x 10m (0.01 ha) should be established. The number and location of these plots should be based on baseline data provided in the ESIA document. The potential methods which should be applied for the wetland survey include; Cintron and Novelli, 1984 (UNESCO 1984); Brower *et al* (1985); ASEAN (1997) and CARICOMP (2000). The following data should be collected during each monitoring event:

Structural measurements of the trees in each plot

- Tree species type: Species will be positively identified using diagnostic physiognomic criteria for mangrove (Snedaker & Snedaker, 1984)
- Diameter at breast height (DBH) of all trees with a trunk having a circumference > 2.5cm within each sample plot.
- Approximate tree height (in meters)

- Density of each species in each plot (number of trees per species per 0.01 hectare)

Physical characteristics of the plots

- Degree of consolidation of the substrate
- Influence of the tidal regime
- Presence, depth and stage of decay of leaf litter
- Soil Colour
- Texture
- Presence of noxious odors
- Percentage of infiltration of sunlight through the upper canopy
- Presence, type and amount of garbage
- Influence of drainage effluent from hotel
- Other sources of effluent
- Influence of industrial sediment
- Hydrologic conditions (i.e., depth of surface water, surface water movement, ability of a standard depth hole to fill with water)
- Presence of living organisms

Presence, type and number of species of fauna

A qualitative assessment of the occurrence/presence, type and number of species of fauna should be observed. For each species observed, the number of sightings and any behavioral activities should be recorded, including:

- Location:
- Activity, such as feeding, foraging, nest-building
- Specific attention will be paid to the presence of Termites, Crabs, Lizards, Leaf cutter ants, Wasps, Red ants, Blue crabs, Coffee bean snails, Tree crabs, Spiders, Fish, Mammals, Birds.

9.9.3 Monitoring Deliverables

The following deliverables should be provided to hotel developers for review:

A report which includes sample dates, assumptions, method statements, calculations, quantitative data on parameters sampled, quality assurance information, personnel certification and conclusions. These reports should have the following format:

- Executive Summary
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9.10 Monitoring Risk Assessment

The proposed project is likely to have a minimum amount of risk generally associated with field surveys. **Table 71 - 9-1** below provides an assessment of these risks and their proposed mitigation measures.

Table 73 - 9-1: Risk Assessment and Proposed Mitigation Measures.

Activity	Potential Risk	Details	Occurrence Potential	Severity	Mitigation Measures
Mangrove Assessment and Flow Characteristic Assessments	Dehydration	Heat stroke in the field	4	1	Field subsistence will cover the provision of water for field personnel. However, all team members will be briefed on the dangers of dehydration before going into the field.
	Drowning	Falling into sluice drain	1	4	Flotation devices will be supplied to field personnel when working near the sluice drain and lagoon.

Activity	Potential Risk	Details	Occurrence Potential	Severity	Mitigation Measures
	Dangerous wildlife	Attach by reptiles, Insect Bites	1	1/2	Reptile attach is highly unlikely, but field personnel are trained to identify potential nesting sites as well ensure these areas remain undisturbed. Should reptiles be encountered they will be observed but not engaged. Insect bites are likely. All field personnel will be required to identify if they have any allergies prior to going in the field. Personnel with severe allergic reactions to insect bites will not be enlisted for these surveys. All field personnel will be provided with insect repellent and a field medical kit will be taken which will contain antihistamine creams for bites. Should a

Activity	Potential Risk	Details	Occurrence Potential	Severity	Mitigation Measures
					<p>person have a severe reaction to an insect bite, surveys will be abandoned. HSE will be notified and based on the severity of the reaction ambulance services contacted, the team will return to a pre-determined assembly point and further medical attention provided</p>
	Flying Objects	Falling object such as branches, flying grass	1	1	PPE (safety glasses, hard hat, coveralls) will be provided to all field personnel.
	Slips trips and falls	Tripping during hike to and from study stations	4	1	While this is likely to occur, there are no preventative measures other than a safety briefing to ensure all field personnel are aware of the terrain and to be aware of their

Activity	Potential Risk	Details	Occurrence Potential	Severity	Mitigation Measures
					surroundings for their personal safety
	Severe weather	Torrential Rain	2	1/2	No field survey will be conducted during or immediately after any severe weather
	Becoming Lost		1	1	Safety vest will be supplied to all field personnel with bright marks, GPS will also be used to track route to and from Mangrove stations. Contact will be maintained by mobile phone or wireless radio with hotel personnel/project liaison while in the field.

The indices for **Table 71 - 9-1** above can be broken down as follows:

<u>Potential for Occurrence</u>	<u>Severity of Outcome</u>
1 –Not likely to occur	1- Minor discomfort
2- Possible but not expected	2- Incapacitated requiring medical assistance
3- Probable hazard	3- Loss of limb/sever injury/ loss of consciousness
4- Likely to occur	4- Loss of life

9.11 Boardwalk Construction Mitigation and Operations Management

Construction of the boardwalk and other features within the mangrove must utilize the following guidelines:

- The boardwalk should be constructed in stages (finishing one section and moving on in a continuous buildout plan) and without the use of heavy equipment to reduce the potential impact area.
- Construction should not be undertaken during periods of heavy rain/ rainy season.
- Construction materials should be natural and blend in with the forest to reduce the visual impact of fauna. The materials should be strong, rust resistant and should not be treated with chemicals which may leach into the environment.
- The use of hazardous or toxic substances should not be undertaken in or near waterways.
- Older and larger trees should be avoided
- Construction should be limited to daylight hours to avoid the disturbance of circadian rhythms

- Restricted and authorized use of mangrove boardwalks for ecotourism and ecological research

9.12 Other Mitigation Strategies

9.12.1 Reduction of Parking Spaces

Parking and Back of the House Facilities Areas alone require circa. 3.5 acres of the 26 acres available for development and will require the removal of some secondary forest areas to the northeastern end of the property. Discussions should be had with the ALG to request a reduction in the number of parking spaces needed. During hotel operations, it is anticipated that the majority of hotel guests and staff will be transported by buses, hence a request for a reduction in the number of parking spaces would be a practical and feasible one.

9.12.2 Solar Power Generation

From an ecological standpoint, mangrove rehabilitation, which was discussed in previous parts, is the recommended mitigation for mangrove loss.

From an emissions standpoint, the use of solar power generation is the recommended mitigation for mangrove loss. Generally, the projected amount of CO₂ emissions per year from hotel operations of this magnitude using natural gas and heavy fuel oil is circa 12,000 – 17,000 tonnes of CO₂ per year. Using solar power generation as a mitigative measure can result in a net positive result in CO₂ emissions by 10-15% compared to the amount of CO₂ that the mangroves would sequester.

9.13 Operation and Maintenance Plan

Generally, hotels are complex and costly when it comes to maintenance with various uses of spaces that have different schedules and uses for guest rooms” restaurants, health club, swimming pool, retail store and each has a functional engineering system

required for its maintenance. Maintenance therefore has to be done throughout the year, requiring competent staff to undertake building services, operation and maintenance, supplemented by outsourced contractors. (Chan et al 2001; 2003). In the hospitality industry the maintenance of the engineering systems is important despite its complex processes as its effectiveness will directly affect the quality of hotel service, food, and beverage which have direct and significant effect on guests' impression of the hotel. (Chan et al 2001).

With respect to Kilgwyn Bay Hotel Development the following key Operations Facilities require a rigorous and well documented Maintenance Plan developed by experienced and certified engineers;

- I. Waste water management system- pumps storage
- II. Waste Water Treatment System
- III. Electrical Systems
- IV. Fuel and Operations Chemical Storage

Operations in Environmentally Sensitive Areas

Operational management plans for the coast line/beach, the developer should be advised that a turtle nesting/management plan should be implemented during the laying and hatch period which spans the months of March to October (species dependent).

The resort can support conservation efforts by:

1. Ensuring red or amber directional lights are used near the beach front to avoid light pollution on the beach which may disorient turtles and hatchlings
2. Put proper signage on the property making guests aware of what they should do if they encounter a turtle.
3. Security who patrol the hotel grounds should be made aware that hatchlings may wander onto the facility and should be trained to collect hatchlings and return turtles to the beach or to a groundskeeper who will do so.

4. The hotel can support the efforts of NGO's who may wish to patrol the beach to ensure nest poaching does not occur. (This may be in the form of funding support or equipment support)
5. Erect Signage to increase awareness of turtle nesting areas along the beach and important contact information for Hotel Environment Coordinator and HSSE Department.

9.14 Emergency Management and Emergency Response Plan

ALG's Crisis and Emergency Management Plan will identify, analyze and outline mitigation measures for any hazard that may present risks to the operations. This Plan provides an established base line; ALG would update and revise all Emergency Response and/or Crisis Management Plans, and prepare strategies for cost-effective mitigation measures and recovery policy decisions for the proposed project.

The criteria used to identify and evaluate potential foreseeable emergencies for all Operations and Facilities is facilitated through risk analysis process and involves Facility Risk and Hazard Vulnerability Assessments. The latter to be carried out by the HSSE Department.

ALG follows the principles of the Incident Command System for all Emergency Response situations and their Emergency Response Plan is in line with standard industry best practices as well as local applicable legal requirements.

The Project Emergency Response Plans will be developed in accordance with and will be guided by ALG's Crisis and Emergency Management Plan and will incorporate elements of contractor-specific Emergency Response Plans. Some of the key elements of the ALG's Emergency Management Plan (EMP);

- Building evacuations in case of events like fires and muster points
- Shelter-in-place orders during severe natural disasters; Hurricanes, earthquakes, wildfires etc. In conjunction with TEMA
- Complete lockdown in case of Acts of workplace violence — Active shooters, bomb threats, terrorist attacks, etc.

- Collaborative response plan with National Security Agencies
- Civil disturbances — Protests, demonstrations, riots, strikes, etc.
- Facility emergencies — Structure fires, hazardous leaks or spills, etc.

Steps in the EMP;

- Perform a threat assessment
- Document contact information
- Assign roles and responsibilities

The main roles as part of the emergency response plan:

- Incident commander
 - Communication commander
 - Scene supervisor
 - Building utilities manager(s)
 - Route guide(s)/HSSE wardens
- Take stock of current resources within your organization
Number of guests, employees, contractors etc.
 - Fire extinguishers and alarms
 - First aid kit
OSHA requires that employers provide medical and first aid supplies commensurate with the hazards of the workplace.
 - Determine your response plan steps
 - Communicate with your employees
 - Communicate with National Emergency Response Agencies

9.15 Grievance Redress Plan (GRP)

Potential grievance from environmental and social risk coming from hotel development and those identified by stakeholders. Although the site earmarked for hotel development is privately owned property, at the community level there will be competing interests over Kilgwyn Bay Mangrove and Swamp resources.

9.15.1 Stakeholders Views on Grievance Redress

The goal of the GRM is to channel grievance into an acceptable, institutionalized mechanism for resolving conflict deriving from Hotel development implementation. The GRM mechanism should focus on dialogue and problem solving as an intermediate way for stakeholders to discuss problems. The GRM is expected to primarily address interest-based Hotel Development and Operations conflicts, meaning conflict in which groups with some form of interdependency have a difference in (perceived) interest. GRMs seek to complement the legal system, not replace it. In case Hotel development stakeholders are unable to find resolution with the GRM, they may seek their right (win-lose resolution) by submitting their case to legally provided formal dispute resolution mechanism through the court system.

9.15.2 Views of Stakeholders in the Grievance Redress Process

The views of stakeholders were gathered on the local and district level within the defined 2km buffer SCIA (Refer to **Section 4.0 - Definition of Study Area**). From previous reports and from the consultations with different stakeholders, it is evident that awareness and participation are the center of attention in the Hotel Development discussions.

The low level of awareness is a serious concern for Grievance Redress Mechanism implementation. If the Hotel development is implemented without boosting the awareness level of local users, there will be an overflow of awareness-related grievance that may express itself through more sensitive issues of benefit sharing. Therefore, as explained previously, the design of the GRM will allow wide enough accessibility for local users so they can have a channel of communication to talk and learn about the Hotel development.

The local and regional stakeholders propose establishing a locally-operating grievance redress system in which all parties are represented. The GRM should operate independently of all interested parties in order to guarantee fair, objective, and impartial treatment to each case. Making decisions by entities having a stake in the process is thus unacceptable.

9.15.3 Grievance Uptake/Registration

Stakeholders propose that the best way authorities should receive grievances is in an oral format. In that way, less-educated community members have a chance to access the GRM. Other modalities proposed are WhatsApp Messenger, written letter, suggestion/complaint box, website and telephone hotline. The latter should ensure that every grievance is recorded. Stakeholders also stressed for registration of each received grievance by the Hotel development program authorities.

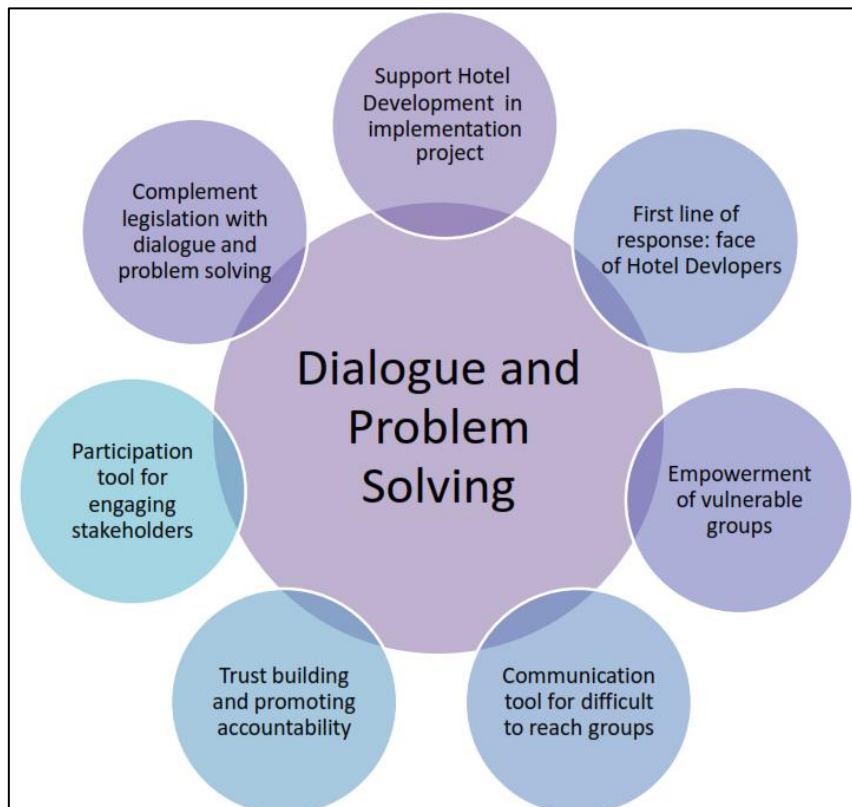


Figure 131 - 9.3: Goal and Objectives of the GRM for Kilgwyn Bay Hotel Development Project. Figure Adopted from REDD Implementation Centre, Nepal, 2015.

9.15.4 Grievance Redress Mechanism Structure

Stakeholders have three type of options to address conflicts in in the Hotel Development, as follows;

Option 1 Informal Dispute Resolution

As explained by the wide majority of stakeholders consulted, users prefer submitting grievance to the informal dispute resolution mechanism such as local leaders,

community groups/organization and federations via informal dispute resolution mechanism in their village or community.

Option 2 GRM System

When informal dispute resolution has insufficiently delivered a resolution, disputants may submit their Hotel development related grievance to the GRM (**Figure 132 - 9.4**). The GRM envisages seeking a win-win solution by using a set of conflict tools for mapping out the interests, improving communication between parties and finding creative ways to mutually discover and seek solutions.

Option 3 Formal System

If the GRM is ineffective in transforming a particular conflict, the disputants are free to submit the grievance to the formal system of the court of law (**Figure 132 - 9.4**). The formal system is rights-based and applies the law to decide who wins and who loses. Here a final decision will be made by the Magistrate/Judge, after which the complainant has a possibility of appeal within the courts.

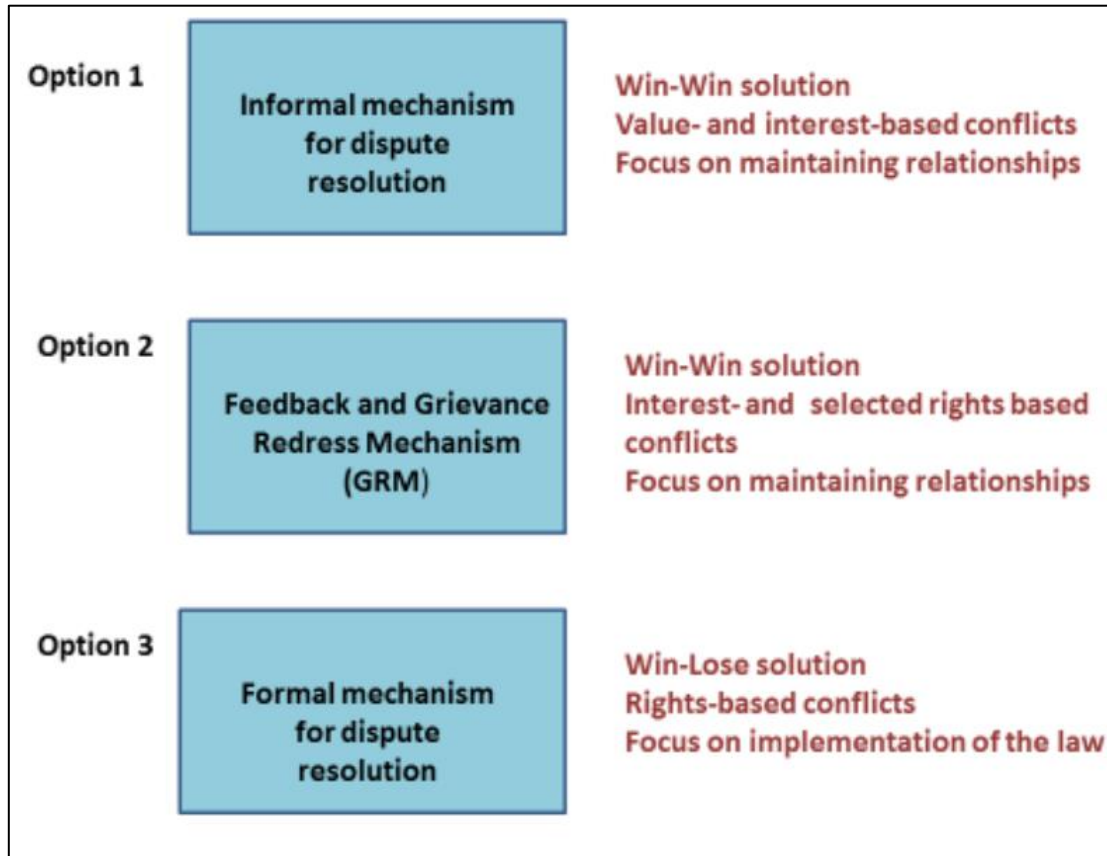


Figure 132 - 9.4: Various Options for Grievance Redress in the Kilgwyn Bay Hotel Development Project.
Adopted from REDD Implementation Centre, Nepal, 2015.

9.15.5 GRM Procedure and Schedule

From the time the grievance is received until a resolution on the dispute is found (or not), is estimated taking 30 working days. The grievance, once received, follows a systematic process consisting of six steps as shown in **Figure 133 - 9.5**. The process is inclusive and participatory: there is involvement from multiple parties early on (from step 2 onward).

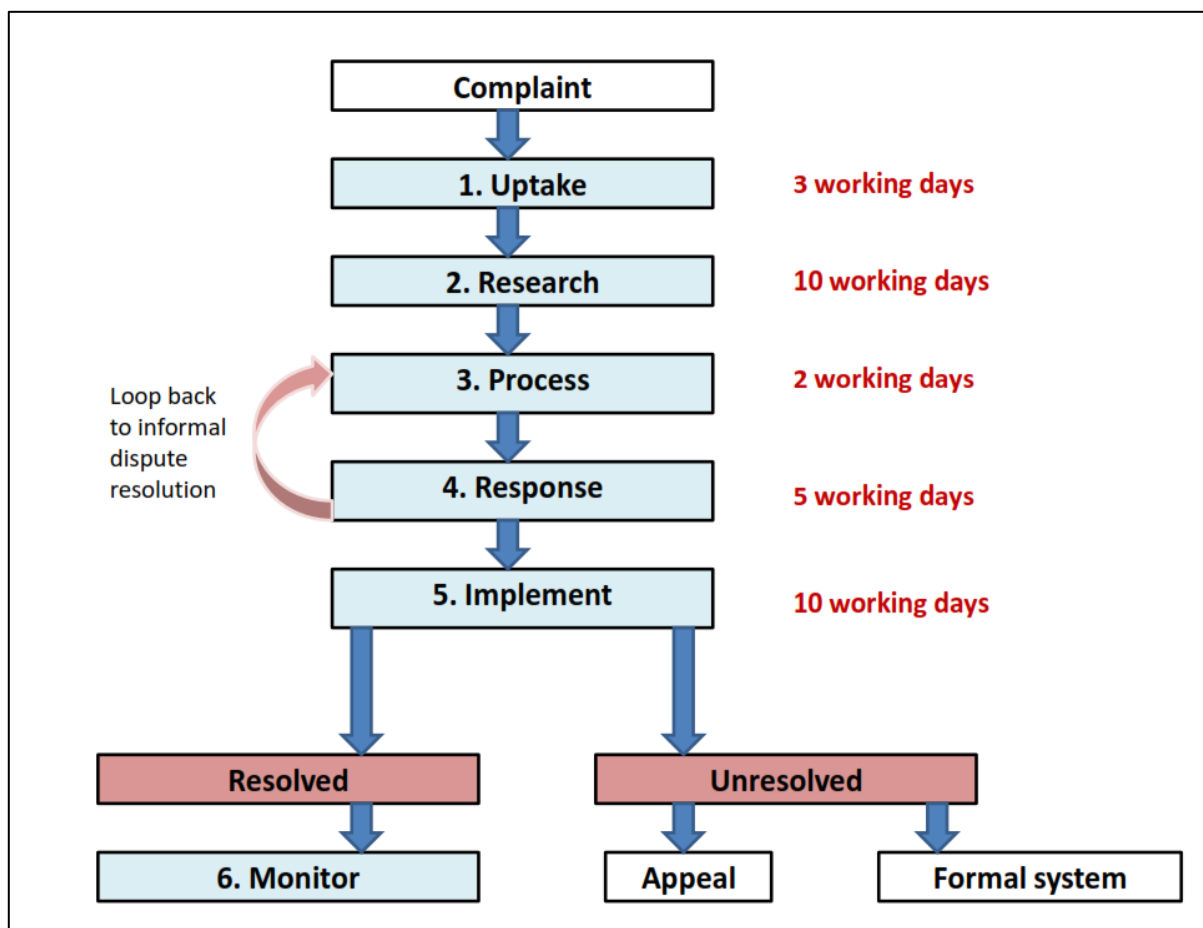


Figure 133 - 9.5: Process of Grievance Handling for the Kilgwyn Bay Hotel Development Project.
 Adopted from REDD Implementation Centre, Nepal, 2015.

The GRM will become fully operational within a period of 1 month of the initialization of the Hotel construction and remain functional for the period until completion of

construction. This has to parallel process the emplacement of staff and infrastructure available to initialize the GRM due process.

The GRM will once again be opened during the operational phase of the hotel development and remain open to allow a case-by-case grievance uptake related solely to hotel operations.