

9.0 ENVIRONMENTAL MONITORING PROGRAMME

9.1 Monitoring during Site Clearance and Preparation of the Proposed Hotel

- Inspections should be conducted to ensure that the endemic trees of *Roystonea*, *Thrinax* and *Phyllanthus* and those supporting the endemic epiphyte *Hohenbergia* are not removed or sustain any damage.

This should be done by a qualified person. NEPA and/or NEPT could conduct these inspections.

It is not anticipated that this exercise will incur additional costs.

- Daily inspections to ensure that construction activities are not being conducted outside of regular working hours (e.g. 7 am – 7 pm). In addition, a one off noise survey should be undertaken to determine workers exposure and construction equipment noise emission.

RIU's project engineer / construction site supervisor should monitor the construction work hours. NEPA should conduct spot checks to ensure that the hours are being followed.

It is not anticipated that this exercise will incur additional costs.

- Daily monitoring to ensure that the cleared areas and access roads creating a dust nuisance.

RIU's project engineer / construction site supervisor should monitor the site clearance. NEPA should conduct spot checks to ensure that this stipulation is followed. In addition, the NGO's within the area can be used to provide additional surveillance.

It is not anticipated that this exercise will incur additional costs.

- Undertake daily inspections of trucks carrying solid waste generated from site clearance activities to ensure that they are not over laden as this will damage the public thoroughfare and onsite lead to soil compaction.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Daily monitoring of vehicle refuelling and repair should be undertaken to ensure that these exercises are carried out on hardstands. This is to reduce the potential of soil contamination from spills. Spot checks should be conducted by NEPA.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

9.2 Monitoring During the Construction Phase of the Proposed Hotel

- Weekly checks should be conducted on trees and other vegetation to ensure that they are not damaged and are responding to relocation and reinstatement.

This should be done by a qualified person. NEPA and/or NEPT could conduct these inspections.

It is not anticipated that this exercise will incur additional costs.

- Daily inspection of site clearance activities to ensure that they are following the proposed building plan and to ensure that site drainage and wastewater system are being constructed as planned. Check and balance can be provided by NEPA and the Negril Green Island Area Local Planning Authority (NGIALPA).

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Undertake monthly water quality monitoring to ensure that the construction works are not negatively impacting on coastal water quality. The parameters that should be monitored are **salinity, dissolved oxygen, nitrates, phosphates, turbidity, faecal and total coliforms.**

The Negril Coral Reef Preservation Society (NCRPS) or any other organization with the capability to conduct monitoring of the listed parameters should be used to perform this exercise. It is recommended that a report should be given to NEPA at the end of each monitoring exercise.

This is estimated to cost approximately **J\$ 46,000** per monitoring exercise.

- Persons selling food to the construction workers should prepare and serve the food in a hygienic manner so as not to cause potential health problems. Each person selling food should provide a valid **Food Handlers Permit** and the pots and utensils used in the preparation of the food should be properly sanitized.

Person(s) appointed by RIU may perform this exercise. It is recommended that this exercise be conducted at least once per month. In addition assistance maybe sought from the Public Health Inspector for the area.

No additional cost is anticipated for this exercise.

- Daily inspections to ensure that construction activities are not being conducted outside of regular working hours (e.g. 7 am – 7 pm). In addition, a one off noise survey should be undertaken to determine workers exposure and construction equipment noise emission.

RIU's project engineer / construction site supervisor should monitor the construction work hours. NEPA should conduct spot checks to ensure that the hours are being followed. The noise survey maybe conducted by C.L

Environmental Co. Ltd., Environmental Solutions Ltd. or any other suitable qualified company or individual.

The monitoring of the construction work hours is not expected to incur any costs. The noise survey is estimated to cost approximately **J\$46,000**.

- Daily monitoring to ensure that fugitive dust from cleared areas, access roads and raw materials are not being entrained in the wind and creating a dust nuisance.

RIU's project engineer / construction site supervisor should monitor the construction work hours. NEPA should conduct spot checks to ensure that this stipulation is being followed. In addition, the NGO's within the area can be used to provide additional surveillance.

It is not anticipated that this exercise will incur additional costs.

- Undertake daily inspections of trucks carrying raw material to ensure that they are not over laden as this will damage the public thoroughfare and onsite lead to soil compaction.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Conduct daily inspections to ensure that trucks carrying raw materials and heavy equipment are parked at the designated area on the proposed site so as to prevent traffic congestion along Norman Manley Boulevard.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Conduct daily inspections to ensure that flagmen are in place and that adequate signs are posted along the roadway. This is to ensure that traffic along the Norman Manley Boulevard have adequate warnings and direction.

Person(s) employed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Undertake daily assessment of the quantity of solid waste generated and keep records of its ultimate disposal. Additionally, solid waste generation and disposal of the campsite should also be monitored.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Weekly assessment to determine that there are adequate numbers of portable toilets and that they are in proper working order. This will ensure that sewage disposal will be adequately treated.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Monitor and approve the suppliers and sources of local materials. Inspection of quarry and sawmill licences should be conducted to ensure that they are legal. Copies of these licences should be kept on file.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Daily monitoring of vehicle refuelling and repair should be undertaken to ensure that these exercises are carried out on hardstands. This is to reduce the potential of soil contamination from spills. Spot checks should be conducted by NEPA.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Where possible, construction crews should be sourced from within the study area. This will ensure that the local community will benefit from the investment. The Negril Chamber of Commerce could be used as the watchdog to ensure that this is achieved.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

9.3 Monitoring During the Operational Phase of the Proposed Hotel

- Weekly checks for approximately six (6) months should be conducted on trees that have been replanted for landscaping to ensure that they are responding to relocation and reinstatement.

This should be done by a qualified person. NEPA and/or NEPT could conduct these inspections.

It is not anticipated that this exercise will incur additional costs.

- Undertake monthly inspection of drainage, wastewater and recycling systems to ensure that they are in proper working order to negate potential detrimental environmental impacts from malfunctioning infrastructure example grease traps.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Undertake quarterly water quality monitoring exercises for one year to ensure that the hotel operation is not negatively impacting on coastal water quality. The parameters that should be monitored are **salinity, dissolved oxygen, nitrates, phosphates, turbidity and faecal and total coliforms.**

The Negril Coral Reef Preservation Society or any other organization with the capability to conduct monitoring of the listed parameters should be used to perform this exercise. It is recommended that a report should be given to NEPA at the end of each monitoring exercise.

This is estimated to cost approximately **J\$ 46,000** per monitoring exercise.

- Undertake daily assessment of the quantity of solid waste generated and keep records of its ultimate disposal. This is to ensure that the skips and bins do not become overfilled.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Undertake weekly assessment of the beach area to see if there is any damage. If so, there should be a reduction in beach use.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Undertake an assessment to ensure that beach access by locals is not prevented and the carrying capacity of the beach is not being exceeded.

NEPA and NEPT may perform this exercise.

No additional cost is anticipated for this exercise.

- Assess that the water conservation fixtures and methods that were proposed are installed and implemented.

The Tourism Product Development Company Limited (TPDCO) may perform this exercise.

No additional cost is anticipated for this exercise.

- Where possible, employees for the operation of the hotel should be sourced from within the study area. This will ensure that the local community will benefit from the investment. The Negril Chamber of Commerce could be used as the watchdog to ensure that this is achieved.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise.

- Quarterly checks should be undertaken on the proposed wastewater treatment plant for the compactors effluent to ensure that there is no excessive build up of solids. The system should also be desludged on an “as needed basis”.

Person(s) appointed by RIU may perform this exercise.

No additional cost is anticipated for this exercise, except that Ja\$10,000.00 per annum should be budgeted for desludging.

- Quarterly beach profile monitoring should be undertaken on the beach associated with and just adjacent to the hotel to determine the seasonal and long-term behaviour of the beach’s plan form. This profiling should be undertaken at least six locations (100 m intervals) along the beach. Either permanent Bench marks or fixed infrastructure points should be employed to assure that profiles are consistently taken at the same location. The profiles should extend to the 1.5m water depth from fixed point on the back of beach.

Person(s) appointed by RIU may perform this exercise or NEPA may wish to extend their monitoring programme to this area.

No additional cost is anticipated for this exercise.